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IN THE CIRCUIT COURT OF PUTNAM COUNTY, WEST VIRGINIA

ROBERT C. CARTER,
on behalf of himself and a class of others similarly situated;

Plaintiffs,

v.

Civil Action No. 00-C-300

MONSANTO COMPANY,
a foreign corporation;
PHARMACIA CORPORATION;
a foreign corporation;
APOGEE COAL COMPANY,
a foreign corporation;

Defendants.

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JONALS ED WRIGHT, CLERK
PUTNAM CO. CIRCUIT COURT

CORRECTED FOURTH AMENDED COMPLAINT

COMES NOW the plaintiff and for his Corrected Fourth Amended Complaint states as follows:

1. Plaintiff Robert C. Carter is a resident of Putnam County, West Virginia, and resides on and owns real property abutting the surface waters of Manila Creek, downstream from the Manila Creek dump site, said site being more fully described below. For purposes of this complaint, the term "property" includes one, some, or all elements of ownership of real estate and/or interest in ownership, including, but not limited to, surface ownership, rights to subsurface water and riparian rights, fee simple ownership, leasehold interests, and any other interest.

2. Defendants Monsanto Corporation and Pharmacia Corporation (collectively "Monsanto") are foreign corporations, or successors to corporations, which at relevant times herein owned and operated a chemical manufacturing plant in Nitro, West Virginia, and/or engaged in the manufacture of agricultural herbicides at said facility.

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3. Defendant Apogee Coal Company is a foreign corporation that, upon information and belief, is a successor to the liabilities to companies that owned and/or controlled said Manila Creek dump site at relevant times herein.

4. At all relevant times, the defendants each had ownership, possession control and/or the right to control of the dump sites identified herein.

5. In approximately, 1929 defendant Monsanto began operating a chemical manufacturing plant located in Nitro, West Virginia, where it manufactured various chemicals.

6. Beginning in 1948, Monsanto began the manufacture of 2, 4, 5-trichlorophenoxyacetic acid ("2, 4, 5-T"), a powerful herbicide, at its Nitro plant.

7. Monsanto manufactured 2, 4, 5-T using a batch operation. The batch operation used by Monsanto resulted in the formation of 2, 3, 7, 8-tetrachlorodibenzoparadioxin ("dioxin"), a tar-like contaminant, during the trichlorophenol ("TCP") process. Later, Monsanto changed its 2, 4, 5-T batch operation to a continuous production process, but this process also produced dioxin. During the Vietnam War, Monsanto sold the dioxin-contaminated 2, 4, 5-T to the United States military in a formulation known as "Agent Orange."

8. From the beginning, Monsanto knew that the tar-like contaminant (dioxin) that was generated in the TCP was highly toxic, and, in fact, was poisoning its own workers.

9. Nevertheless, Monsanto continued to manufacture 2, 4, 5-T using a process that generated wastes contaminated with dioxin, in spite of available technology that would have eliminated and/or greatly reduced the generation of waste dioxin in its manufacturing process.

10. Furthermore, despite its knowledge of the health hazards posed by dioxin, Monsanto began disposing of and/or arranging for the disposal of large quantities of waste material

contaminated with its dioxin, and other hazardous chemicals, at various locations, including the Manila Creek dump site, outside of its premises, no later than 1958.

11. From the 1950s into the 1980s, Monsanto failed to advise local residents that it had dumped large quantities of dioxin and other chemicals it knew to be hazardous at this location.

12. In the mid-1980s, Monsanto, under pressure from the United States Environmental Protection Agency ("U.S. EPA"), allegedly undertook to remove its dioxin contaminants from the Manila Creek dump site.

13. Despite Monsanto's assurances that it removed its hazardous dioxin from this site, it remains contaminated with dioxin today and remain sources of continuing offsite contamination. For example, samples taken in September 1999 at the Manila Creek site reveal extremely high concentrations of dioxin in the same groundwater "monitoring" wells that Monsanto installed during its purported cleanup in the mid-1980s.

14. Today, and in the past, the surface water and sediments of Manila Creek are contaminated with dioxin below the Manila Creek dump site, said source of dioxin being the Manila Creek dump site for the reasons described above.

15. The dioxin-contaminated waters and sediments of Manila Creek flow into and are subsumed by the waters of Heizer Creek, near the junction of Manila Creek Road and Heizer Creek Road in Putnam County, West Virginia, thus contaminating the downstream waters and sediments of Heizer Creek with dioxin.

16. From the juncture of Manila and Heizer Creeks, the dioxin contaminated waters and sediments of Heizer Creek flow into and are subsumed by the waters of the Pocatalico River, at a junction at or about one mile east of Poca, Putnam County, West Virginia, thus contaminating the downstream waters and sediments of the Pocatalico River with dioxin.

17. From this juncture of Heizer Creek and the Pocatalico River, the dioxin-contaminated waters and sediments of the Pocatalico River flow into and are subsumed by the Kanawha River in Poca, Putnam County, West Virginia.

18. The aforementioned segments of Manila and Heizer Creeks, and the Pocatalico River, periodically overflow their banks, flooding real property and depositing dioxin-contaminated sediments on said property. These streams will continue to do so in the future.

19. Dioxin is one of the most toxic man-made chemicals in the World. Because of this, it has been referred to by public health experts as the "Darth Vader" of chemicals.

20. Dioxin is very persistent in the environment. Dioxin does not break down, and it is not metabolized by bacteria. Dioxin tends to persist in soil and in water, where it is ingested by organisms and enters the human food chain.

21. Dioxin causes cancer in humans. In addition, dioxin acts like a hormone that disrupts the neurological, immunological, reproductive, developmental, and endocrine systems.

22. Plaintiff Robert C. Carter owns and resides on real property which abuts and/or includes the surface waters of Manila Creek downstream from the Manila Creek dump site. He brings this suit for himself and for that class of individuals (1) owning or residing on real property which abuts and/or includes those certain segments of the surface waters of Manila Creek, Heizer Creek, and the Pocatalico River, or the floodplains of same. This class specifically excludes the defendants, their parent or subsidiary companies, or owners or officers of same, should they be owners of real property in question. The aforementioned waterways and real property have been contaminated by dioxin and will continue to be contaminated by dioxin as a result of the activities of the defendants as described above, acting jointly and severally. The plaintiff adequately represents the class of persons defined above. This action may be

properly prosecuted as a class action under Rule 23 of the West Virginia Rules of Civil Procedure. The persons constituting the classes in this case are so numerous as to make it impractical to bring them all before this Court. Notwithstanding this fact, there are common questions of law affecting the rights of each member of the classes for which a common relief is sought. Moreover, the prosecution of separate actions by individual members of the classes would create a risk of inconsistent and varying adjudications, which would establish incompatible standards of conduct for the defendants and class members. Adjudication with respect to individual members of the classes would, as a practical matter, be dispositive of the interests of other members of the class not parties to such adjudications, thereby impairing or impeding their interests.

Count 1 – Public Nuisance

23. The actions of the defendants, as aforesaid, has caused and continue to cause the waters and sediments of Manilla Creek, Heizer Creek, and the Pocatalico River to become contaminated with dioxin. This contamination specially affects the plaintiff, and members of the class, inasmuch as they own property or reside along these waterways, they would otherwise use and enjoy these waterways on a daily basis, and they are subjected to floods from these waters bearing dioxin-contaminated sediments unto their property.

24. The actions of the defendants, as aforesaid, have and will continue to unreasonably interfere with the public's riparian rights and the public use and enjoyment of the aforementioned waterways, and have and will continue to diminish the value of said rights and waterways.

Count 2 – Private Nuisance

25. The actions of the defendants, as aforesaid, unreasonably interfere with the plaintiffs' use and enjoyment of their property.

26. The actions of the defendants, as aforesaid, have been and are reasonably expected to continue to be carried out in an intentional, willful, wanton, malicious and unreasonable fashion with knowledge that the rights of the plaintiffs to use and enjoy their property have been, and will be, thereby substantially and materially reduced, causing them damages for which they are entitled to recover.

27. In the alternative, the defendants' conduct, as aforesaid, is otherwise actionable in negligence, recklessness, or as an abnormally dangerous activity which has substantially and materially reduced the rights of the plaintiffs to use and enjoy their property and caused them damages for which they are entitled to recover.

28. As a direct and proximate result of the defendants' conduct, as aforesaid, plaintiff, and members of the class, have suffered and will continue to suffer damages including, but not limited to, the loss of use and enjoyment of property, loss of property value, inconvenience, and emotional distress.

29. As the direct and proximate result of the aforementioned wrongful acts of the defendants, jointly and severally, the aforesaid presence of dioxin on and about the real property of the plaintiff and members of the class have made it reasonably and medically necessary to conduct a risk assessment and health inspection of said persons in order to determine exactly which of these persons is at a significant risk of contracting dioxin-related disease relative to the general population or which of these persons may have already contracted dioxin-related diseases.

Prayer for Relief

WHEREFORE, the plaintiff, individually, and as class representative, prays for the following relief:

A. That the Court certify the class under Rule 23 of the West Virginia Rules of Civil Procedure and appointment of plaintiff as class representative and his counsel as class counsel.

B. That the Court order and enjoin the defendants from continuing to release dioxin into the sediments and waters of the aforementioned waterways, thus resulting in said toxin entering onto the properties of the plaintiffs.

C. That the Court order the defendants clean and remove dioxin from the sediments and waters of the aforementioned waterways and from the properties of the plaintiffs, by payment of monies reasonably calculated to represent the costs of removal and disposal of such contaminants and the costs of monitoring said properties against further contamination – said monies to be held in trust by the Court for the benefit of the plaintiff and members of the class.

D. That the Court establish a risk assessment and health inspection, testing, and monitoring program for plaintiff and class, and further, that the Court construe and construct a trust to be funded by the defendants in such an amount as to ensure that the Court-supervised risk assessment and health inspection, testing, and monitoring program be maintained in perpetuity or until such time as there is not longer any need for the aforesaid risk assessment and health inspection, testing, and monitoring, to be funded by the defendants, for the benefit of the plaintiff and members of the class.

E. An award of punitive damages for the plaintiff and members of the class.

F. That the Court order the defendants to pay damages to the plaintiffs for the particular harms and injuries they have suffered as a result of the defendants' conduct and their continuing

unreasonable interference with the plaintiffs' use and enjoyment of their property, including, but not limited to:

(1) Damages for diminution in value of the plaintiffs' property as aforesaid,

(2) Damages for loss of the plaintiffs' right to the use and enjoyment of their property as aforesaid.

G. That the Court order the defendants to pay for the costs of this proceeding, including reasonable attorneys fees.

H. Such other relief as may be just and equitable.

The plaintiff demands a trial by jury as to all issues so triable.

Plaintiff, by Counsel

Stuart Calwell (WV Bar No. 0595)
John H. Skaggs (WV Bar No. 3432)
David H. Carriger (WV Bar No. 7140)
LAW OFFICES OF STUART CALWELL, PLLC
P. O. Box 113
Charleston, WV 25321
(304) 343-4323
Counsel for Plaintiff

IN THE CIRCUIT COURT OF PUTNAM COUNTY, WEST VIRGINIA

Virdie Allen, an individual and resident of the State of Illinois; Zina G. Bibb, an individual and resident of the State of Ohio; Evelyn Smith Cash, an individual and resident of the State of New York; Hillman Raynes and Erma Raynes, husband and wife; Donald R. Rhodes and Wanda M. Rhodes, husband and wife; Charles Agee and Eileen Agee, husband and wife; Herbert W. Dixon and Norma J. Dixon, husband and wife; Charles S. Tyson and Betty Tyson, husband and wife; Herschell E. Winter and Jeanette Winter, husband and wife,

Plaintiffs,

Vs. CIVIL ACTION NO. 04C465

MONSANTO COMPANY, *a Delaware corporation, with its principal place of business in the State of Missouri;*
PHARMACIA CORPORATION, *a Delaware corporation, with its principal place of business in the State of Missouri;*
AKZO NOBEL CHEMICALS INC., *a Delaware corporation, having its principal offices in the State of Illinois;*
AKZO NOBEL SERVICES, INC., *a Delaware corporation, having its principal offices in the State of Illinois;*
AKZO CHEMICALS, INC., *a Delaware corporation, having its principal place of business in the State of Illinois;*
FLEXSYS AMERICA CO., *a Delaware corporation, having its principal place of business in the State of Ohio;*
FLEXSYS AMERICA, L.P., *a Delaware corporation, having its principal place of business in the State of Ohio;*
FLEXSYS INTERNATIONAL, L.P.,

EXHIBIT 3

a Delaware corporation, having its principal place of business in the State of Ohio; and
FLEXSYS INTERNATIONAL CO., *a Delaware corporation, having its principal place of business in the State of Ohio,*

Defendants.

To: Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, MO 63167

SUMMONS

IN THE NAME OF THE STATE OF WEST VIRGINIA, you are hereby summoned and required to serve upon Stuart Calwell, Esq., plaintiffs' attorney, whose address is THE CALWELL PRACTICE, PLLC, Law and Arts Center West, 500 Randolph Street, Charleston, WV 25302, an answer, including any related counterclaim you may have to the Complaint filed against you in the above styled civil action, a true copy of which is herewith delivered to you. You are required to serve your answer within 30 days after service of this Summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the Complaint and you will be thereafter barred for asserting in another action any claim you may have which must be asserted by counterclaim in the above styled civil action.

DATED: December 17, 2004.

Donald A. Wright
Clerk of Court

IN THE CIRCUIT COURT OF PUTNAM COUNTY, WEST VIRGINIA

Virdie Allen, an individual and resident of the State of Illinois; Zina G. Bibb, an individual and resident of the State of Ohio; Evelyn Smith Cash, an individual and resident of the State of New York; Hillman Raynes and Erma Raynes, husband and wife; Donald R. Rhodes and Wanda M. Rhodes, husband and wife; Charles Agee and Eileen Agee, husband and wife; Herbert W. Dixon and Norma J. Dixon, husband and wife; Charles S. Tyson and Betty Tyson, husband and wife; Herschell E. Winter and Jeannette Winter, husband and wife,

Plaintiffs,

Vs. CIVIL ACTION NO. CC-17-2009-C-165
Spaulding

MONSANTO COMPANY, *a Delaware corporation, with its principal place of business in the State of Missouri;*
PHARMACIA CORPORATION, *a Delaware corporation, with its principal place of business in the State of Missouri;*
AKZO NOBEL CHEMICALS INC., *a Delaware corporation, having its principal offices in the State of Illinois;*
AKZO NOBEL SERVICES, INC., *a Delaware corporation, having its principal offices in the State of Illinois;*
AKZO CHEMICALS, INC., *a Delaware corporation, having its principal place of business in the State of Illinois;*
FLEXSYS AMERICA CO., *a Delaware corporation, having its principal place of business in the State of Ohio;*
FLEXSYS AMERICA, L.P., *a Delaware corporation, having its principal place of business in the State of Ohio;*
FLEXSYS INTERNATIONAL, L.P.,

a Delaware corporation, having its principal place of business in the State of Ohio; and
FLEXSYS INTERNATIONAL CO., *a Delaware corporation, having its principal place of business in the State of Ohio,*

Defendants.

CLASS ACTION COMPLAINT

PRELIMINARY STATEMENT

1. Plaintiffs are residents and/or former residents of one or more of several communities surrounding a now defunct chemical plant located near Nitro, West Virginia.

2. The former Monsanto Company (hereafter Old Monsanto) owned and operated the plant from approximately 1934 to approximately 2000. Beginning in 1949 and continuing through 1971 Old Monsanto produced at the plant site an agricultural herbicide 2,4,5 – trichlorophenoxyacidic acid (hereafter 2,4,5-T) which was heavily contaminated with dibenzo dioxins and dibenzo furans including 2,3,7,8 tetrachlorodibenzoparadioxin (hereafter collectively dioxins/furans).

3. Plaintiffs, on behalf of themselves and others similarly situated, bring this action against the defendants and each of them for directly causing plaintiffs' person and real property to become contaminated with the dioxins/furans produced at the Old Monsanto plant in Nitro, WV, and plaintiffs further bring this action against the above named defendants and each of them as successors to the dioxins/furans related legacy liabilities of the Old Monsanto Company's Agricultural Division for causing plaintiffs' person and real property to become contaminated with the aforesaid dioxins/furans.

4. As a result of the aforesaid dioxins/furans contamination, the plaintiffs seek to recover money from the defendants for property damage caused by dioxins/furans contamination, and the plaintiffs seek to recover the costs of future medical examinations and tests for the early detection of serious diseases related to abnormal exposures to dioxins/furans.

5. Because defendants are continuing at the present time to contaminate the plaintiffs' property with dioxins/furans by failing to control the dioxins/furans contaminated surface of the aforesaid Old Monsanto Nitro plant, plaintiffs are also seeking a permanent injunction against the defendants to stop further contamination of plaintiffs' person and property.

6. The putative class plaintiffs seek to represent is made up of persons:

a. who currently, or in the past, reside or resided in one or more of the communities surrounding the Old Monsanto chemical plant in Nitro, WV, during the time period 1949 through the present; and,

b. who currently, or in the past, work or worked in one or more of the communities surrounding the old Monsanto chemical plant in Nitro; and,

c. who currently, or in the past, were students in one or more of the public schools located in one or more of the communities surrounding the Old Monsanto chemical plant in Nitro, WV;

all of whom, because of the defendants' dioxins/furans contamination of their communities, homes, places of employment and school buildings are at an increased risk for the development in the future of serious and life shortening diseases as a consequence of their abnormal exposure to dioxins/furans.

7. The class of persons plaintiffs seek to represent is also made up of persons who currently own real property in one or more of the communities surrounding the Monsanto

Chemical plant in Nitro, WV, and whose property is contaminated with dioxins/furans generated by the Old Monsanto chemical plant in Nitro.

8. Plaintiffs' claims arise from Old Monsanto's Agricultural Division's production of the aforesaid dioxins/furans contaminated agricultural herbicide 2,4,5-T at the aforesaid Nitro chemical plant during the period 1949 through approximately 1971.

9. In addition to Old Monsanto's Agricultural Division's 2,4,5-T unit at the Nitro plant, Old Monsanto's Chemical Division also operated various production units at the Nitro plant during the period 1935 through approximately March, 2000, manufacturing non-agriculturally related chemical products.

10. Plaintiffs make no claim against Old Monsanto's Chemical Division or any of its products, and plaintiffs make no claim in this litigation against the defendants directly or as successors to Old Monsanto for any injuries or damages in any way related to Old Monsanto's Chemical Division products.

11. Plaintiffs further define their claims by alleging that Old Monsanto Company entered into a series of complex business arrangements, more particularly detailed below, beginning in the mid 1990's, which resulted in Old Monsanto changing the name of a subsidiary company known as the Queeny Chemical Company to Solutia, Inc. Old Monsanto then transferred its Chemicals Division business and the Chemicals Division's liabilities to the newly named Solutia, including the Chemicals Division's business that was conducted at the aforesaid Nitro Plant.

12. Old Monsanto did not transfer the Old Monsanto Agricultural Division to Solutia and more particularly did not transfer the Old Monsanto's legacy liability for dioxins/furans

contamination at the Nitro plant and surrounding communities caused by Old Monsanto's Agricultural Division's manufacture of 2,4,5-T during the period 1949 through 1971.

13. Plaintiffs' claims herein relating to environmental contamination, property damage and medical monitoring are strictly limited to Old Monsanto's Agricultural Division's dioxins/furans contaminated product 2,4,5-T and any of its dioxins/furans contaminated chemical precursors.

14. Solutia, Inc., the recipient of Old Monsanto Company's Chemicals Division business as well as Old Monsanto's legacy liabilities for environmental contamination, property damage, and personal injury arising from the production of Chemicals Division products, is currently in Chapter 11 Reorganization in the United States Bankruptcy Court for the Southern District of New York. Plaintiffs make no claim here against Solutia's Chemicals business as a successor to Old Monsanto's Chemicals Division business. Certain members of the putative class and the named plaintiffs herein have filed claims in the bankruptcy proceeding against Solutia alleging dioxin/furan contamination of their person and property primarily for the time period during which Solutia owned the plant site and permitted dioxin/furan dust to escape the plant site.

IDENTITY OF PARTIES

A. General Description of Persons Making Up Putative Class

15. The plaintiffs, at all times relevant to their claims, were citizens and residents of the State of West Virginia.

16. Certain of the plaintiffs lived in or occupied and otherwise maintained, owned, rented, leased and/or otherwise controlled residences and or commercial property in and about

the several communities located in Putnam and Kanawha Counties, West Virginia, and are hereafter referred to as the "Property Plaintiffs".

17. As more fully appears below, the Property Plaintiffs complain that the defendants have caused the inside of their homes and their real property to be contaminated with dioxin/furans generated by the defendants' contaminated 2,4,5-T process at the Nitro plant.

18. Certain of the plaintiffs, hereafter referred to as the "Employed Plaintiffs", complain that their places of employment located in the various communities in the area of the Nitro plant were also contaminated with the aforesaid dioxins/furans.

19. Certain of the plaintiffs, hereafter referred to as the "Public School Plaintiffs", complain that the schools in the area were likewise contaminated with the aforesaid dioxins/furans, causing plaintiffs who attended these schools in the past and plaintiffs who attend schools now to be exposed to the aforesaid dioxins/furans during the school year.

20. Several thousand people and several thousand parcels of real property, residential, commercial, and governmental, including the improvements thereon, have been adversely affected and damaged as a consequence of the events and conditions complained of herein.

21. The latest Census puts the population of Nitro WV at 6,824. Of this number 403 are under age 5 years. Total housing units number 3,217. The median value of these houses is $69,000.

22. The City of Saint Albans total population as of the Census is 11,567. Of this number, 605 are under 5 years of age. Total housing units number 5,467 with a median value of $77,000.

23. In addition to incorporated towns, there are numerous populated suburban communities in the area of the Old Monsanto plant, all of which are at risk for the aforesaid dioxins/furans contamination.

B. Identification of Representative Plaintiffs.

24. Virdie Allen is a resident and citizen of the State of Illinois, residing 205 Sarah Street, Shorewood, Illinois. She has lived at this address for 22 years. The first 19 years of her life she lived in Nitro, WV on 36th Street and on 41st Street. Ms. Allen lived in Nitro from approximately 1952 until 1971 and attended grade school, junior high school and high school in Nitro, WV. She has a claim for medical monitoring.

25. Zina Bibb is a resident and citizen of the State of Ohio and has been for a number of years, residing at 824 E. Como Ave., Columbus, Ohio. Ms. Bibb grew up in Nitro and attended public schools there, graduating from Nitro High School. She has a claim for medical monitoring.

26. Evelyn Smith Cash, is a resident and citizen of the State of New York, residing at 15 Oliver Avenue, White Plains, NY. From birth until young adulthood she lived on Oliver Street in Amandaville near St. Albans, WV. This community is down wind and directly across the Kanawha River from heavily dioxin/furan contaminated homes in Nitro, WV. Amandaville is approximately two miles from the old Monsanto Plant. Ms. Cash has a claim for medical monitoring.

27. Hillman Raynes and Erma Raynes are husband and wife. They reside at 4046 40th Street, Nitro, Putnam County, WV, and have lived there for 43 years. The Rayneses own real estate in Nitro. Recent testing of their home shows it to be contaminated with the aforesaid dioxins/furans. Mr. and Mrs. Raynes have claims for property damage and medical monitoring.

28. Donald R. Rhodes and Wanda M. Rhodes are husband and wife and reside at 1205 12th Street, Nitro, Kanawha County, WV, and have lived at that address for 45 years. Mr. and Mrs. Rhodes own real estate in Nitro. Recent testing of their home reveals high levels of the aforesaid dioxins/furans. Mr. and Mrs. Rhodes each have a claim for property damage and medical monitoring. Mr. Rhodes was employed in Nitro, WV at the Avtex plant from 1967 to 1980.

29. Charles Agee and Eileen Agee are husband and wife and reside at 2117 21st Street, Nitro, Kanawha County, WV. The Agees have lived there for 33 years. Mr. and Mr. Agee own real estate in Nitro. Recent testing of their home shows it to be highly contaminated with the aforesaid dioxins/furans. Mr. and Mrs. Agee each have property damage claims and each have claims for medical monitoring.

30. Herbert W. Dixon and Norma J. Dixon are husband and wife and reside at 1435 14th Street, Nitro, Kanawha County, WV. Mrs. Dixon has lived in Nitro most of her life and Mr. Dixon has lived in Nitro since 1952. The Dixons own real estate in Nitro. Recent testing of their home reveals that it is contaminated with the aforesaid dioxins/furans. The Dixons have claims for property damage and medical monitoring.

31. Charles S Tyson and Betty Tyson are husband and wife and reside at 1523 W. 15th Street, Nitro, Kanawha County, WV. The Tysons have lived at this address for 44 years. The Tysons own real estate in Nitro and each has a claim for property damage as well as medical monitoring inasmuch as recent testing reveals high levels of the aforesaid dioxins/furans in their home.

32. Herschell E. Winter and Jeannette Winter are husband and wife and reside at 1002 Main Avenue, Nitro, Kanawha County, WV. The Winters have lived at this address since 1973.

The Winters own real estate in Nitro and each has a claim for property damage and for medical monitoring. Tests of their home reveal high levels of dioxins/furans.

C. Identification of Defendants.

1. The Legacy of "Old Monsanto".

33. Old Monsanto was created soon after the turn of the last century and operated continuously either as the Monsanto Chemical Company or simply as the Monsanto Company, until its pupation into one or more of the herein named defendants sometime during and after approximately 1997.

34. Prior to September 1, 1997, Old Monsanto's organization included three divisions: the Agricultural Products Division (or some similar name), the Pharmaceuticals and Nutrition Division (or some similar name) and the Chemical Products Division (or some similar name).

35. Old Monsanto acquired its Nitro plant from Rubber Services Industries sometime in the late 1920's or early 1930's with the intention of supplying rubber chemicals to the tire industry in Akron, Ohio, and elsewhere.

36. Old Monsanto's Nitro plant was primarily a Chemical Products Division plant. But the Nitro plant was also home to one of Old Monsanto's Agricultural Division's products. More particularly, Old Monsanto produced, as aforesaid, a phenoxy herbicide at its Nitro plant known as 2,4,5-T from 1949 through 1971.

37. The workers who manufactured this herbicide referred to it simply as "weed bug". All "weed bug" manufactured by Monsanto was heavily contaminated with the aforesaid dioxins/furans.

a. Old Monsanto's Knowledge Regarding Dioxin.

38. In the late 1940's Old Monsanto's Nitro plant was housed in buildings and sheds constructed by the United States Government in 1917-1918 as part of a nitro-cellulose (gunpowder) plant to produce munitions for World War I.

39. Plant structures were nothing more than a series of open-ended sheds and brick parapet walls scabbed together to provide a roof over the giant cooking pots and other paraphernalia used in the production of basic chemical products.

40. In approximately 1947, Monsanto's Agricultural Division began to produce on an experimental scale a molecule, that in its logically pure form was known as 2,4,5,-trichlorophenoxyacidic acid, or the aforesaid 2,4,5,-T. This molecule exhibited toxicity to plants by causing their root systems to out grow their leaf systems, thus causing the plant to destroy itself through a process of defoliation.

41. In 1949, Old Monsanto's Agricultural Division "started up" its 2,4,5-T manufacturing process at the Nitro plant. At that time and continuing through the early sixties Monsanto produced 2,4,5,-T in a "batch" process at the Nitro plant. This simply meant that batches of the product were cooked (reacted) as opposed to a continuous production stream. Large pots (autoclaves) were loaded with precursor chemicals, which were allowed to react (cook) to form the 2,4,5,-T molecule.

42. In 1949, a reaction in one of the 2,4,5-T autoclaves went out of control. Heat and pressure built and a safety disk blew open, discharging the contents of the vessel to the atmosphere through the roof of building 34. A large cloud drifted over the plant and over the town. 226 plant workers became ill. Some were sent to the University of Cincinnati's Kettering Institute to be examined by Dr. Raymond Suskind. In three confidential reports to Monsanto dated 1949, 1952 and 1953 (copies of the 1949 and 1953 reports are attached as exhibits A and

B), it was reported that the "unknown products of decomposition" liberated from the 2,4,5,-T autoclave caused a systemic intoxication in the workers involving most major organ systems, the endocrine system, the nervous system (both central and peripheral) and further resulted in a systemic acne dubbed "chloracne". The affected workers at the plant referred to the acne simply as "weed bumps".

43. In 1957, two German scientists, Kimmig and Schultz, published the findings of research into the "unknown toxic by-products" of chlorinated benzene processes. They identified the toxin as dioxin, a molecule another German had patented in the 1890's. The technology of gas chromatography permitted the identification of the dioxin molecule and it was determined that it was this toxin that was the culprit in Old Monsanto's Nitro 1949 release.

44. From 1949 until 1971, Old Monsanto's Agricultural Division produced 2,4,5-T on a continuous basis in its trichlorophenol plant in Nitro. Each and every ounce and each and every molecule of this product had associated with it the contaminants, the aforesaid dioxins/furans.

45. In approximately 1964, Old Monsanto began selling 2,4,5,-T to the Armed Services to be used as a part of the herbicide "Agent Orange" for use in Viet Nam. Production of 2,4,5-T continued in a new building. Dioxin/furan content of the product, however, remained unchanged and often increased. Throughout this period Old Monsanto's Agricultural Division, with the advice of Old Monsanto's Medical Director, Emmet Kelly, MD, continued to experience adverse health effects in its workers engaged in the production of 2,4,5-T.

46. The production of dioxin contaminated 2,4,5-T continued 7 days a week 365 days a year from 1949 to approximately 1971 at the Monsanto Nitro plant. During this entire time period, dioxin contaminated dust was released to the atmosphere by Old Monsanto's Agricultural

Division where it was carried by the prevailing winds over the town of Nitro, surrounding communities and the plaintiffs' homes and businesses.

47. In approximately 1972, Old Monsanto dismantled the 2,4,5-T building and buried it, due to its dioxins/furans contamination, on the plant site.

48. In approximately 1983, the United States Environmental Protection Agency documented dioxins/furan contamination at the Nitro plant site as well as dioxins/furans contamination off the plant site. Old Monsanto, on behalf of its Agricultural Division, entered into a consent decree at that time, agreeing to cap the Old Monsanto Nitro property with a 4" layer of "chat" (gravel) to seal the surface of the property against further dioxins/furans escape. Old Monsanto agreed not to disturb the surface thereafter without first employing contamination protective measures.

49. During the time period 1979 through 1984, Old Monsanto commissioned a number of health studies regarding the risks posed by the dioxins/furans contamination at its Nitro plant. In connection with these studies investigators employed by Old Monsanto, including Judith Zak, Raymond Suskind, James Gaffey, and Rebecca Hertzberg, reviewed the entire history of Old Monsanto's experience with the "dioxins/furans" production and contamination problems at Nitro and informed Old Monsanto of their findings.

50. At the present time, New Monsanto is under a consent order with the United States Environmental Protection Agency regarding off site contamination of the Kanawha River and certain orphan dump sites which contain Old Monsanto dioxins/furans.

51. At all times relevant, Old Monsanto and the herein named defendants had actual knowledge of the dioxins/furans contamination problem at Nitro and the surrounding

communities and in the alternative certain of the defendants knew or with the exercise of reasonable care should have known of the aforesaid contamination.

b. Solutia, Inc.

52. Solutia, Inc. (hereafter "Solutia"), was incorporated in April 1997 by Old Monsanto corporate insiders. Solutia is simply the renamed Queeny Chemical Company[1], a subsidiary of Old Monsanto.

53. On or about September 1, 1997, Old Monsanto entered into a Distribution Agreement with Solutia, which transfered the operations, assets and liabilities of Old Monsanto's Chemicals Division to Solutia, a copy of which is attached as exhibit (C).[2]

54. In connection with the aforesaid distribution to Solutia, Old Monsanto distributed on a one to five basis all of the stock of Solutia to Old Monsanto shareholders (the "spinoff").

55. Solutia was created by Old Monsanto insiders as the vessel into which Old Monsanto and the named defendants sought to concentrate their liabilities arising from the environmentally ruinous historical conduct of Old Monsanto at its various Chemicals Division operations throughout the United States, including Nitro, WV.

56. On information and belief, Solutia agreed to assume Old Monsanto's Chemicals Division legacy liability because at the time Solutia was being controlled by former Old Monsanto corporate insiders.

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[1] The Queeny Plant and Old Monsanto had their beginnings simultaneously in 1901. John Francis Queeny and Dr. Louis Veillon launched these enterprises simultaneously, naming Monsanto after John Queeny's wife Olga Monsanto Queeny.

[2] Interestingly, the newly formed Solutia's core business was in the production of nylon and in the production of coatings for safety glass. The company, however, via the distribution agreement, fell heir to over 28 aging and decrepit raw chemical processing and production plants that historically had little or nothing to do with the core business of Solutia.

57. Old Monsanto did not, however, transfer all operations, assets and liabilities to Solutia. The so-called agriculture business was not transferred. The pharmaceutical and nutrition businesses were, likewise, retained by Old Monsanto.

58. As aforesaid, the Nitro plant was part of the chemicals division and was distributed to Solutia. However, the Nitro plant was host to one of Monsanto's Agricultural Division operations involving the manufacture of the agricultural herbicide, 2,4,5,-T. As such, the liabilities arising from the Nitro 2,4,5-T production unit did not transfer to Solutia. Further, pursuant to a "Master Operating Agreement" dated as of January 1, 1995, pertinent parts of which were adopted by Solutia, Solutia never operated the Nitro plant, rather one of the named defendants, Flexsys, as appears below, took control of and operated the plant.

59. Upon information and belief, following a brief six year "effort" by Solutia to operate plants in 18 areas of the United States, Solutia and 14 of its corporate affiliates filed petitions for relief under chapter 11 of title 11, United States Code (the Bankruptcy Code) in the United States Bankruptcy Court for the Southern District of New York. Solutia continues to operate and manage its property as Debtor in possession pursuant to sections 1107 and 1108 of the Bankruptcy Code.

c. Defendants

Monsanto Company

60. The defendant Monsanto Company (hereinafter New Monsanto), is the successor in interest to the liabilities of Old Monsanto.

61. New Monsanto was incorporated in February 2000 as a subsidiary of the defendant, Pharmacia Corporation ("Pharmacia"), under the name Monsanto Ag Company.

62. On March 31, 2000, New Monsanto changed its name from "Monsanto Ag Company" to "Monsanto Company".

63. On September 1, 2000, Pharmacia transferred the assets and liabilities of its agricultural business to New Monsanto pursuant to the terms of a Separation Agreement.

64. On October 23, 2000, New Monsanto sold 38,033,000 shares of its common stock in an initial public offering at a price of $20 per share. Pharmacia continued to own the remaining shares, representing 85.2% of the outstanding shares.

65. On August 13, 2002, Pharmacia spun off its remaining interest in New Monsanto by distributing its entire ownership of New Monsanto stock to Pharmacia shareholders by means of a tax-free dividend. The stated reasons for the separation of the agricultural business from the other businesses of Pharmacia were that as a separate company, the agricultural business could have a more focused investor base, greater strategic focus and the ability to offer better incentives to employees.

66. Under the terms of the Separation Agreement, New Monsanto agreed to indemnify Pharmacia for any liability it might have for environmental remediation or other environmental responsibilities primarily related to Pharmacia's former agricultural or chemical businesses.

67. The aforesaid Separation Agreement provided that New Monsanto would indemnify Pharmacia for environmental liabilities that Solutia, the former chemicals business of Pharmacia, assumed pursuant to the aforesaid Distribution Agreement, to the extent that Solutia failed to pay, perform or discharge those liabilities.

68. On July 1, 2002, in anticipation of the spinoff of New Monsanto, Phamacia and New Monsanto entered into a First Amendment to the Separation Agreement ("Amendment"). In the amendment, the definition of "Former Agricultural Business" was amended by adding the

following language at the end of Schedule F-1 under the heading "Other Former Businesses": "**34. discontinued herbicides, including, without limitation, 2,4-D (2,4 dichlorophenoxyacetic acid) and 2,4,5-T (2,4,5 trichlorophenoxyacetic acid)**" (emphasis added). The New Monsanto emerged from the tangle of business deals instigated by Old Monsanto, with Old Monsanto's valuable agricultural assets intact, and ostensibly protected from Old Monsanto's Chemicals Division legacy liability.

69. New Monsanto maintains its principal offices in St. Louis, MO, the same corporate park occupied for decades by the Old Monsanto. New Monsanto rarely refers to its former self by the name "Monsanto", choosing instead to refer to legacy issues in the name of the defendant Pharmacia, a company that did not exist prior to March 31, 2000.

Pharmacia Corporation

70. Pharmacia Corporation ("Pharmacia") was originally incorporated under the name Monsanto Company (the successor to a Missouri corporation, Monsanto Chemical Works).

71. On March 31, 2000, MP Sub, Incorporated, a wholly-owned subsidiary of Pharmacia (then named Monsanto Company), merged with and into Pharmacia & Upjohn, Inc. ("P&U") pursuant to the terms of an Agreement and Plan of Merger dated as of December 19, 1999, among the parties (the "Merger Agreement").

72. As a result of the merger, each share of common of common stock of P&U was converted into 1.19 shares of the common stock of Pharmacia, and each share of Series A Convertible Perpetual Preferred Stock of P&U was converted into one share of a new series of convertible preferred stock of Pharmacia designated as Series B Convertible Preferred Stock.

73. As a part of the aforesaid merger, Old Monsanto was renamed Pharmacia Corporation and P&U became a subsidiary of Pharmacia.

74. After the merger, the agricultural operations of Pharmacia were transferred to New Monsanto.

75. On July 13, 2002, Pfizer Inc. ("Pfizer") entered into an Agreement and Plan of Merger (the "Merger Agreement") with Pharmacia and Pilsner Acquisition Sub Corp., a direct wholly-owned subsidiary of Pfizer (the "Merger Sub").

76. The aforesaid merger was completed on July 16, 2003, at which time the Merger Sub was merged with and into Pharmacia, and Pharmacia survived the merger as a wholly-owned subsidiary of Pfizer.

77. Each Pharmacia shareholder received 1.4 shares of Pfizer stock for each share of Pharmacia stock, and each share of Pharmacia's Series C convertible perpetual preferred stock was exchanged for one share of Pfizer Series A convertible perpetual preferred stock.

78. The total estimated purchase price paid by Pfizer was $56 billion.

79. A condition precedent to Pfizer paying the purchase price was that Pharmacia had to cause one of the following to occur: (i) a spin-off of New Monsanto, (ii) the sale of all or substantially all of the assets of New Monsanto followed by the liquidation and dissolution of New Monsanto, or (iii) the sale of all of Pharmacia's equity interest in Monsanto.

80. Pharmacia is a Delaware corporation with principal offices in St. Louis, MO.

81. At all relevant times, Pharmacia and its subsidiaries, owned, occupied, and otherwise controlled the aforesaid contaminated Nitro plant.

82. Further at all relevant times, Pharmacia was and is a successor to the liabilities of Old Monsanto and Pharmacia has and continues to aid and abet Monsanto in the contamination of the communities surrounding the Nitro plant.

Akzo Nobel Chemicals, Inc., Akzo Nobel Services, Inc, Akzo Chemicals, Inc.

83. The defendants, Akzo Nobel Chemicals, Inc., Akzo Nobel Services, Inc., and Akzo Chemicals, Inc. are Delaware corporations, and each of these defendants maintains its principal place of business in the State of Illinois (hereafter, collectively, "Akzo").

84. The defendants, "Akzo", collectively, are subsidiaries of Akzo Nobel, NV, a foreign corporation, headquartered in the Netherlands. Akzo Nobel, NV, is active in three business areas: pharma, coatings and chemicals.

85. Through a series of complex corporate permutations, Akzo Nobel, NV created the defendants, Akzo, as U.S. subsidiaries for the purpose of carrying out certain business plans with the defendants, as more particularly appears below.

86. The defendants, Akzo, are licensed to do business in West Virginia and at all relevant times were and are doing business in West Virginia, including doing business at the aforesaid Nitro plant site.

Flexsys America Co., Flexsys America, L.P., Flexsys International, L.P., and Flexsys International, Co.

87. The defendants, Flexsys America Co, Flexsys America, L.P., Flexsys International, L.P. and Flexsys International, Co., are Delaware corporations (collectively "Flexsys").

88. Each of these defendants maintains its principal place of business in the State of Ohio and at all times relevant each of the defendants, Flexsys, were licensed to do business in the State of West Virginia and were doing business in the State of West Virginia.

89. The defendants, Flexsys, are and were created by Flexsys NV, an incorporated joint venture existing under and by virtue of the laws of Belgium, formed in 1995 between the aforesaid Akzo Nobel NV and Old Monsanto, and maintaining a principal place of business in Woluwe, Belgium.

90. The defendants, Flexsys, were formed for the purpose of carrying out various complex business ventures with the other defendants as more particularly appears below.

91. At relevant times, the defendants, Flexsys, were in joint ventures with Old Monsanto and at relevant times were in joint ventures with the other defendants, including Pharmacia and New Monsanto, for the purpose, but not limited thereto, of operating and controlling the Old Monsanto Nitro plant near Nitro, WV.

92. To carry out the aforesaid joint venture, Akzo and Old Monsanto entered into a "Master Operating Agreement" and certain amendments thereto as of January 1, 1995. Under this agreement, Old Monsanto, Akzo, or Flexsys is the "operator" or the "guest" at certain operating sites, including Nitro. At sites at which one party is an "operator" the reciprocal party is a "guest", and vice versa. The Master Operating Agreement provided that Flexsys was to be the operator of the Nitro plant providing services to Solutia, as guest, at Nitro.

93. At various and relevant times Flexsys owned, operated or had control of the Nitro, WV, plant site. During these times the defendants, Flexsys and Akzo knew and had reason to know of the aforesaid dangerous dioxin contamination existing at the Nitro plant site and further knew or had reason to know that dioxin contamination was leaving the plant site causing the communities in the surrounding area to become contaminated with dioxin and other related toxins.

94. At all relevant times the defendants Akzo and Flexsys had control of, operated, and otherwise had responsibility for Old Monsanto's Nitro Plant. At all such times, these defendants knew, should have known, and were in a position to know of the risks of contamination and off site contamination presented by the dioxin/furan contaminated environment of the Nitro Plant site. Because of this relationship, the Akzo defendants and the Flexsys defendants are successors

to the liability of Old Monsanto for off site dioxin/furan contamination with reference to the Nitro site and these defendants are jointly and severely liable with the other defendants.

95. At all times relevant, the defendants were, and currently are, doing business in the State of West Virginia, at, by and through their chemical plant located on Plant Road, Nitro, West Virginia.

Jurisdiction

96. The Circuit Court of Putnam County has jurisdiction to decide this lawsuit. The complained of events originated with the defendants' plant site, the aforesaid "Monsanto Plant", near Nitro, Putnam County, West Virginia.

97. Certain of the representative plaintiffs reside in Putnam County, WV and certain of the contaminated communities are located in Putnam County, WV. Further, significant numbers of the putative class members are residents of Putnam County, WV, and a significant portion of the contaminated real property is located in Putnam, County, WV.

98. Representative plaintiffs who are residents of Kanawha County, WV, have been directly injured and damaged as a direct consequence of the aforesaid dioxins/furans leaving the Nitro Plant, crossing the Putnam County/Kanawha County line and entering the homes and property of the Kanawha County resident plaintiffs. Further, the putative class members who reside in and own contaminated property in Kanawha County and who have been exposed in Kanawha County have all been directly exposed and contaminated by the aforesaid dioxins/furans emanating from the defendants' Nitro Plant site.

GENERAL CLASS ALLEGATIONS

99. As more particularly stated below, plaintiffs seek class certification under Rule 23 of the West Virginia Rules of Civil Procedure.

100. The representative plaintiffs, on information and belief, and as more fully pleaded below, allege that class certification is appropriate under the claims of this complaint inasmuch as all four prerequisites contained in Rule 23(a) – numerosity, commonality, typicality, and adequacy of representation –are presented and met by the claims herein made. The representative plaintiffs further allege that the herein proposed class action meets one or more of the three subdivisions of Rule 23(b).

A. Summary of Facts Pertinent To Class Certification.

101. The persons plaintiffs seek to represent and who make up the putative class and sub-classes thereof, as set forth above, reside in and own, possess, or control real estate and improvements thereon located in Kanawha and Putnam Counties, WV.; they are residents and former residents of a number of communities, some incorporated, others not, that are located in the vicinity of the aforesaid plant site near Nitro, Putnam County, WV; they were and are employed by various employers in the aforesaid communities; and, they are and were former students in the several public schools located in the aforesaid areas.

102. Specifically, the Monsanto Plant is located near the eastern boundary of Putnam County and the western boundary of Kanawha County, West Virginia, on the banks of the Kanawha River at Latitude 38.25.846/ Longitude 81.50.243 degrees. This location is less than one fourth mile from the city limits of Nitro, West Virginia. The town of Nitro is divided by the Kanawha/Putnam County line, and the plant is located in Putnam County within one half mile of the Kanawha County line, but outside the corporate limits of Nitro.

103. The Monsanto Plant's western boundary is the Kanawha River where the defendants have, during the operative time period, maintained barge docks for the off loading and shipping of chemicals. The river, at this point, flows through a narrow, flat valley floor or

"river bottom" known as the Kanawha Valley. Several of the contaminated communities at issue here are located on this river bottom, including Rock Branch, Armour Creek, Nitro, Amandaville, Institute, and St. Albans, as well as number of less well defined communities. The population of these communities exceeds a combined total of 25,000 persons. Residential houses and commercial buildings number in excess of 8,000.

104. The Kanawha River is a northward flowing river with a general direction of WNW. Prevailing winds tend to blow out of the SW "up stream" along the river bottom. Due to the topography of the area a number of narrow valleys and "hollows" lead away from the river bottom, causing low altitude prevailing winds to funnel along these natural pathways. Residential housing is located all along these natural routes which also provide for convenient road building. The communities located in and along these "hollows" have been, like the river bottom communities, adversely affected by the herein complained of contamination and the conditions created thereby.

105. For purposes of identifying the plaintiffs at risk for contamination, the plant site, due to prevailing winds and natural topography, is located at the center of a wind and topographically defined arc within which the deposition of contaminated dust and fumes escaping at all relevant times from the plant property fell upon and otherwise entered and contaminated plaintiffs' real estate. The putative class members and their communities are located within this arc.

106. Each of the putative class members, including any sub-classes thereof, has experienced the same threshold wrongful invasion of their property rights and/or personal rights, to-wit: contamination of their property and/or person by defendants' dioxins/furans. Importantly, each of the putative class members, and the members of any sub-classes thereof,

complain of contamination by the same class of toxic molecules as every other member of the putative class.

107. Defendant's operation of the 2, 4, 5-T process and other related processes from approximately 1949 to 1971 caused the neighborhoods in the vicinity of the plant to become contaminated with the aforesaid dioxins/furans during that time period. Each of the putative class members as well as the representative plaintiffs had their property contaminated in the same manner by the defendants.

108. As a consequence of the operation of the 2, 4, 5-T process, the plant site and adjacent real estate became heavily contaminated with dioxins/furans.

109. Since 1971 when the 2, 4, 5-T operation ceased and continuing to the present, wind blown dioxin contaminated dust has on a continuous basis escaped from the surface of the plant site causing dangerous accumulations of the aforesaid dioxins/furans to build up on the plaintiffs' real estate and in the plaintiffs' homes. Based on serum lipid testing of certain putative class members and certain members of sub-classes thereof, the defendants' dioxins/furans are and have been building up in the bodies of the class members as well.

B. Plaintiffs' Testing Results In Support of Class Certification.

110. During the period May 21, 2004, through May 25, 2004, contractors retained by the plaintiffs collected indoor dust samples at various residential properties throughout the town of Nitro in order to analyze them for Dioxin/Furan contamination.

111. Analytical testing of the samples was performed by AXYS Analytical Services of Sidney, British Columbia, Canada. On August 10, 2004, AXYS reported their analytical results. Review of this report reveals that dioxin/furans are present at measurable levels in all houses tested. The analytical results indicate concentrations of 2,3,7,8-TCDD ranging from 16.4 to

1,210 pg/g(pico grams per gram, or parts per trillion (ppt)). The total dioxins/furans concentrations ranged from 1,910 to 115,000 parts per trillion.

112. Currently, there are no regulatory standards or guidance for indoor dust contaminated with dioxins/furans. However, the US EPA Region 3 Risk Based Carcinogenic Concentration Guideline for 2,3,7,8-TCDD in residential soil is 4.3 ppt. Under the West Virginia Department of Environmental Protection under Title 60 Legislative Rule (Voluntary Remediation and Redevelopment Rule), the cleanup standard for residential soils is 3.9 ppt. The indoor dust concentrations found in the test houses exceed both these outside soil standards by a substantial margin.

113. These empirical data indicate that substantial portions of the communities in the vicinity of the plant are in fact contaminated. Further, reasonable inferences drawn from these data establish that the ground in these communities is also contaminated with dioxin, dibenzo furans and other toxins created as a consequence of the chlorinated phenol process at the defendant's Nitro plant.

114. Biological testing of certain putative class members reveals that the general population of the aforesaid communities is at significant risk for elevated body burden levels of the aforesaid dioxins/furans.

115. Serum lipid levels among those tested revealed 2,3,7,8 TCDD levels ranging from 5.5 ppt to 239 ppt. Toxic Equivalent levels (TEQs) ranged from 35 to over 300 parts per trillion.

116. The World Health Organization and U.S. Centers for Disease Control and Prevention have concluded as of January, 2003, that the body burden of dioxins/furans in the general population are now below the level of detection.

SPECIFIC RULE 23 CLASS ACTION ALLEGATIONS

A. Rule 23(a) Allegations.

1. Numerosity.

117. The putative class, as alleged above in paragraph _, numbering in excess of 25,000 current and former residents and property owners of the class affected area, is so numerous that joinder of all members is impracticable.

2. Commonality.

118. Rule 23(a)(2) of the West Virginia Rules of Civil Procedure provides that "commonality" is satisfied upon a showing that there are questions of law or fact common to the class. *In Re Rezulin Litigation v. Hutchinson, 214 W.Va. 52, 585 S.E2d 52 (2003).*

119. The claims of the putative class as well as the class representatives, as shown above, all arise from the same set of conditions created by the defendants from 1949 to the present at the Old Monsanto plant site located near Nitro, Putnam County, WV. The mechanism of exposure and contamination is common to all persons in the class affected area.

120. Each member of the putative class was, and is being, exposed to the same toxins. As a consequence of the juxtaposition of the putative class members to the contamination caused by the defendants, each of the class members is now at an increased risk of developing one or more of a discernable set of diseases epidemiologically, clinically, and observationally linked to the contaminants generated by the defendants' at the Old Monsanto plaint near Nitro.

121. The defendants were under a legal duty to use their Nitro property in such a way as to not unreasonably interfere with the rights of the plaintiffs and the putative class members to enjoy their property. Beginning in 1949 the defendants breached this duty to the plaintiffs and

caused abnormally dangerous substances to escape the defendants' Nitro property. As more particularly plead below, the class members were all injured as a consequence of the same breach of duty the defendants owed to each class member as a matter of law.

3. Typicality.

122. As shown above, plaintiffs here allege questions of law or fact common to the class and the claims of the representative parties. Further, the claims of the plaintiffs are typical of the claims of the putative class. The real estate owned by the putative class members was all contaminated in the same way, during the same time period, and this condition presents the same type of property damage as to each potential class member. Further, the risk of serious harm, injury, and disease to each of the class members was created in the same way, by the same defendants during the same time period and the risk is typical of each class member. Further, the same type of toxic molecules threatens each of the putative class members and subjects each to the enhanced risk of the same injuries and disease processes. For example, the most recent biomonitoring data reported by the Center for Disease Control, based and based on a 1998 WHO (World Health Organization) Consultation concluded that current human body levels of 2,3,7,8-TCDD have dropped to non-detectable levels in most of the general population. At a detection level of 4.8 ppt, 95% of the sampled population had non-detectable levels of dioxin in their blood. This data provides a uniform standard against which to measure the risk elevated blood dioxin levels in the putative class present.

123. A representative party's claim is typical if it arises from the same event or practice or course of conduct that gives rise to the claims of other class members, and if his or her claims are based on the same legal theory. These claims are not required to be identical. *In Re Resulin Litigation v. Hutchison, supra, at Sylb. Pt. 12*

4. Adequacy of representation.

124. The representative parties and their properties are, and in the past have been located, within the plume of contamination emanating from the Nitro plant site, and therefore share the same risk as the putative class members. The representative plaintiffs must necessarily protect the interests of the class as they seek to protect themselves; the plaintiffs, because of their shared interests with the putative class, are adequate to represent the interests of the class and any sub-classes.

125. The law firms seeking to represent the putative class possess the financial resources and possess the requisite experience to vigorously represent the class and any subclass in this litigation. Lead counsel for the Calwell Practice, PLLC, Stuart Calwell, a member of the West Virginia State and New York State Bars, has extensive experience litigating dioxin cases against the defendant Monsanto, including serving as lead trial counsel in an 11 month jury trial in the United States District Court for the Southern District of West Virginia, at Charleston, during 1984 and 1985. Currently The Calwell Practice, PLLC, and Stuart Calwell serve on the national plaintiffs' litigation committee, seeking compensation through litigation against Monsanto and others for Viet Nam Veterans injured by dioxin as a consequence of their exposure to Agent Orange, some of which was manufactured in Nitro, WV, by the defendant Monsanto. Further, The Calwell Practice, PLLC is currently serving on the National Steering Committee for the plaintiffs in *In re:* ***PREMPRO PRODUCTS LIABILITY LITIGATION*** *MDL Docket No. 4:o3CV1507 WRW,* presently pending in the United States District Court For The Eastern District of Arkansas, Western Division. Additionally, both law firms, the Calwell Practice, PLLC and The Law Offices of James F. Humphreys and Associates have extensive experience in litigating mass torts. Each firm litigates cases in numerous other states. John M. Mason of the

Law Offices of James F. Humphreys, has served as class counsel for the proposed class of state residents/owners of automobiles made by General Motors, DaimlerChrysler, and Ford, equipped with uncrashworthy front seatbacks, in actions seeking retrofit, repair, or replacement, in Maryland, New Jersey, Pennsylvania, New York, and New Hampshire state courts. Additionally, he has served as co-counsel for state court fen-phen personal injury and medical monitoring claimants, as objecting intervenors, in fen-phen MDL proceedings (EDPA) considering and rejecting a "limited fund" class action settlement proposed by Interneuron Pharmaceuticals, Inc. Mr. Mason has served as plaintiffs' class co-counsel, in American Home Pharmaceuticals, Inc. (Wyeth) settlement approved and implemented by EDPA. Mr. Mason has also served as a member, Pennsylvania state court plaintiffs' steering committees, for (i) fen-phen personal injury and medical monitoring litigation consolidated in Philadelphia County Court of Common Pleas; (ii) Ford/Firestone litigation, Pennsylvania consumer fraud class action in Phila. Cty. Ct. Com. Pl.; and (iii) Cooper Tire litigation, Pennsylvania consumer fraud class action in Phila. Cty. Ct. Com. Pl.

The Calwell Practice, PLLC maintains offices in New York City at 90 Broad Street, 19th floor, in addition to its Charleston and Morgantown West Virginia offices. The Law Offices of James F. Humphreys maintains offices in Washington, D.C., at 1200 New Hampshire Avenue, N.W., 20036, as well as maintaining offices in Charleston, WV. From these offices the respective firms serve the needs of their national litigation.

B. Rule 23(b)(1)(A) Allegations.

126. The prosecution of separate actions by individual members of the class would create a risk of inconsistent or varying adjudications with respect to individual members of the

class which would establish incompatible standards of conduct for the defendants opposing the class.

127. As shown above, the sheer number of putative class members, should their claims be litigated separately, will with certainty result, over time, in inconsistent judgments.

128. Inasmuch as this lawsuit addresses over 50 years of misconduct by the defendants, it is important that the litigation result in clear standards of conduct for other corporations who are or would seek to conduct business within the jurisdiction of Putnam County, WV.

C. Rule 23 (b)(2) Allegations.

129. The representative plaintiffs, on behalf of the putative class members, seek equitable relief from the defendants in order to stop future contamination of plaintiffs' property with dioxin and other toxins migrating from the defendants' Nitro plant site. The injunctive relief sought is permanent and final in nature as more fully appears below.

130. As clearly set forth above, the defendants have engaged in a course of conduct since 1949 which essentially guarantees continued contamination of plaintiffs' property, as well as the property of the putative class members with dioxin and other related toxins due to wind erosion from the Nitro plant site.

131. Further, plaintiffs are seeking to establish a medical monitoring class pursuant to the holding in *Bower v. Westinghouse Electric Corp., 206 W.Va. 133, 522 S.E.2d 424 (1999).* The plaintiffs seek to recover the costs of medical monitoring necessary to determine whether the plaintiffs have sustained or will develop in the future, any injuries from their exposure to the aforesaid toxins. These costs are sought on behalf of the representative plaintiffs as well as the putative class members.

132. Under Rule 23(b)(2) of the West Virginia Rules of Civil Procedure (1998), after liability has been established, the court may exercise its equitable powers to establish and administer a court-supervised medical monitoring program to oversee and direct medical surveillance, and provide for medical examinations and testing of members of a class.

133. As more particularly appears in below, the plaintiffs seek on behalf of themselves and others a court supervised fund for purposes of medical monitoring.

D. Rule 23(b)(3) Allegations.

134. While none but a theoretical "class action" is populated with members of clone-like similarity, the instant case, because of the sheer numbers of putative class members experiencing the same contamination and because the same defendants are responsible for the contamination of the affected communities, issues of fact and law common to the class members predominate over the individual issues attendant to each class member. No individual class member, given the complexity and expense of proving the necessary elements of this civil action, can express a credible argument in favor of individual prosecution over the device of Rule 23. Currently, there is no litigation pending regarding the deposition of wind borne dioxin laden dust on the buildings, property and person of the residents of the Class Affected Area. Because the same defendants acting jointly, severely and in concert during the operative time period are responsible for the environmental mess and human health tragedy that now is the profile of the affected communities, justice requires that the litigation be concentrated in this civil action to allow for the marshalling of money and manpower necessary to effectively litigate the case on behalf of the affected population. By concentrating the many common issues of scientific and technical proof, the common issues of fact regarding the defendants' conduct in causing substantial portions of the aforesaid communities to be contaminated, and the many common

issues of fact regarding the toxicity of the molecules in question, in a single Rule 23 action, the court will be afforded an efficient and cost effective strategy to manage the numerous class members being represented in this civil action.

a. The litigation history of dioxin based claims, to-wit: In Re Agent Orange Litigation and Boggess v. Monsanto, has been underscored by a defense litigation strategy of collateral attacks on the reputations of the experts employed by the plaintiffs, stonewalling discovery tactics and a strategy of using the rules to effect delay all for the ulterior purpose of breaking the financial back of any individual plaintiff with the temerity to pursue a civil action such as this. Such a defense strategy is premised on the tactic of winning the litigation by attrition rather than defending on the merits of plaintiffs' claims. In the face of a well financed corporate litigation team employing such tactics, litigation of individual claims would become a practical impossibility. Rule 23 provides the only effective and efficient tool for the court to provide a fair forum for the litigation of plaintiffs' claims.

135. Monsanto and the other defendants, over the course of approximately fifty-five years, indiscriminately contaminated the plaintiffs' and putative class members' property, making no allowances for individual differences among the class members in this toxic undertaking. The defendants injured and contaminated the plaintiffs and their property as a group. In this conduct, the defendants' only criteria were that the individual putative class member be located under the aforesaid plume of toxins. Defendants' misconduct was broad, and it was carried out in a manner heedless of any peculiarities of the individual residents of the affected areas. Plaintiffs now, having been injured as a group, should be permitted, in consideration of simple justice and fair play, to, as a group, through class representatives,

prosecute the defendants in this single Rule 23 action. The Plaintiffs, therefore, bring this case on behalf of themselves and others similarly situated.

Class Definition.

136. The class is made up of all persons who have had their person and/or property contaminated with the aforesaid dioxins/furans.

137. The putative class of all such persons is divided into two natural sub-classes: (1) The Property Owners Class, which is made up of current real property owners, including leasehold interests, whose property is contaminated with the aforesaid dioxins/furans; and, (2) The Medical Monitoring Class, which is divided into three sub-classes: (a) all persons presently residing or who in the past resided in the area of contamination (hereinafter Class Affected Area) for at least one year during the period March 1949 to the present and whose serum lipid dioxins/furans levels are above the level of detection; and (b) all persons who currently are or who in the past have been employed by employers in the Class Affected Area for five years or more during the period March 1949 to the present and whose serum lipid dioxins/furans levels are above the level of detection; and (c) all persons who currently are or who have in the past attended public schools in the Class Affected Area during the period March 1949 to the present and whose serum lipid dioxins/furans levels are above the level of detection.

138. The Class Affected Area is the area within a range of a five mile radius from the location of the Old Monsanto chemical plant, Putnam County, WV.

139. Excluded from this class are: (1) the defendants and their respective officers, directors, and managerial employees, if any; (2) all attorneys and their staffs involved in this litigation; and (3) the presiding judicial officer and the presiding judicial officer's staff.

140. The representative plaintiffs are identified in paragraphs 24 through 32 above.

WHEREFORE, plaintiffs, after a reasonable but expedited class discovery period, pray that this Court certify a class as above plead, name plaintiffs' counsel herein as class counsel, and proceed to the merits of this important civil action on the basis of Rule 23 of the West Virginia Rules of Civil Procedure.

ALLEGATIONS AND CAUSES OF ACTION AS TO THE MERITS

GENERAL ALLEGATIONS OF FACT

141. The town of Nitro was built, as were the Nitro plant buildings, during 1917-1918. Bungalows, store buildings, schools and other buildings were constructed all as a part of a government reservation to house munitions plant employees and their families. When the government moved out and the chemical plants moved in the town became populated with chemical plant workers and their families. Many of the original World War I buildings and houses still exist and are still occupied by plaintiffs and the class members.

142. Additionally, over the years new houses were built and the population of the river bottom towns of Nitro and Saint Albans grew.

143. During the years that Monsanto was operating its trichlorophenol plant and releasing dioxin laded dust into the atmosphere, the aforesaid houses and buildings were circulating this dioxin laden dust through their attics and crawl spaces, where the dust was deposited and remained, filtering down through the interior of the buildings to be encountered by the plaintiffs.

144. In 1983, the United States Environmental Protection Agency tested Monsanto's plant site for the presence of dioxin. Certain off site sampling were performed as well. Most of the samples obtained from the sampling grid were positive for dioxin, both on the plant site and at off site locations.

145. Plaintiffs' independent sampling of selected homes, as aforesaid, reveals levels of 2,3,7,8 TCDD in attic dust that exceed 2200 parts per trillion. EPA clean-up standards for 2,3,7,8 TCDD contaminated dirt require a level less than 4 parts per trillion. Further, as aforesaid, plaintiffs' biological testing of certain putative class members reveals serum lipid levels of 2,3,7,8 TCDD well above the level of detection and therefore well above levels of dioxins/furans in the general population.

146. The empirical data, to a reasonable probability, support the conclusion that Nitro town and the surrounding communities are contaminated with dioxin generated by the Monsanto plant trichlorophenol process during the period 1949 through 1971.

147. The Monsanto plant site remains contaminated today and continues to present the risk of off site migration of dioxin contaminated dust as well as dioxin contaminated surface water runoff.

NUISANCE:
INVASION OF AND DAMAGE
TO PROPERTY INTERESTS

148. Private nuisance is solely a matter of tort liability. The interest in the private use and enjoyment of land may be invaded by more than one type of conduct. The invasion may be

intentional and unreasonable. It may be unintentional but caused by negligent or reckless conduct; or it may result from an abnormally dangerous activity for which there is strict liability. On any of these bases the defendants may be liable. *Restatement 2d of Torts section 822 comment a (1979).*

149. The class of Property Owner Plaintiffs at all relevant times enjoyed a legally protected interest in the private use and enjoyment of their property. Included within this interest of private use and enjoyment is the interest in enjoying their property and its appreciation in economic value without dioxin contamination and without the risk of developing serious injury or disease as a consequence of being exposed to dioxin contamination. At all times relevant, the defendants invaded Propertied Plaintiffs' legally protected property interests by causing Propertied Plaintiffs' property to become contaminated with the aforesaid dioxins/furans thus destroying the value of the Propertied Plaintiffs' property and thus exposing the Propertied Plaintiffs to a great risk of injury and disease because of the aforesaid dioxins/furans exposure.

A. Intentional Nuisance – Strict Liability.

150. Plaintiffs incorporate by reference paragraphs all foregoing paragraphs the same as though each were fully set forth herein verbatim in the first instance.

151. Since 1949 the defendants by virtue of the actions of Old Monsanto Company and its successor, The Monsanto Company, and the other defendants by virtue of their actions, jointly, severally and as successors to the liability of Old Monsanto Company, created and maintained a nuisance on the property known as the "Monsanto Plant", to-wit: the defendants through their manufacturing processes caused to be created the aforesaid dioxins/furans.

152. The aforesaid dioxins/furans escaped from the defendants' property to the lands and property of the representative Propertied Plaintiffs and to the lands of the putative class of Propertied Plaintiffs. Propertied Plaintiffs allege that the defendants intended to cause the formation of these dioxins and, further, Propertied Plaintiffs allege that the defendants intended the dioxins to escape to the lands of the representative Propertied Plaintiffs and to the lands of the putative class of Propertied Plaintiffs.

153. Because the defendants knew or should have known that their conduct in producing the aforesaid dioxins/furans and causing them to escape the Nitro Plant site was causing a substantial and unreasonable interference with the Propertied Plaintiffs' interests in the use and safe enjoyment of their respective real estate, the defendants' conduct in so doing was and is intentional and unreasonable within the meaning of *Hendricks v. Stalnaker, 380 S.E.2d 198,202 (W.Va. 1989),* and as such, constitutes an intentional and actionable nuisance.

154. Because the gravity of the harm to the Propertied Plaintiffs and the putative class members presented by the aforesaid dioxins/furans outweighs the social value of the defendants' activity in their past production of 2,4,5-T and in their present maintaining of a dioxins/furans contaminated plant site, the defendants' contamination of plaintiffs' property with dioxins/furans is unreasonable.

155. Because the defendants' conduct in interfering with plaintiffs' property interests was and is intentional and unreasonable, the defendants and each of them are strictly liable to the Propertied Plaintiffs and to the putative class members they represent, for the harm and damages proximately caused thereby.

156. As a direct and proximate cause of the defendants' invasion of the plaintiffs' property with dioxins/furans the plaintiffs' interest in their respective real estate has been injured in the following but not limited to the following ways:

157. The Propertied Plaintiffs and the members of the putative class of propertied persons they represent have suffered diminution in property value due to the dioxins/furans contamination; and,

158. Have incurred and will incur cleanup costs associated with the decontamination of their respective properties.

159. The plaintiffs and the members of the putative class as a consequence of the dioxins/furans contamination of their property are at a substantially increased risk over that of the general population for the development of a number of serious adverse health conditions which are more particularly set forth below.

WHEREFORE, the Propertied Plaintiffs on behalf of themselves and others similarly situated, demand judgment of and from the defendants and each of them in an amount and manner hereinafter prayed for to compensate them for all losses of property value and for all expenses and for the intrinsic value of losing their houses which are also homes.

B. Unintentional and Otherwise Actionable Nuisance.

160. Plaintiffs incorporate all allegations and preceding paragraphs the same as though fully set forth herein in the first instance.

161. **IN THE ALTERNATIVE,** defendants' conduct in producing the aforesaid dioxins/furans and causing them to contaminate the property of the Propertied Plaintiffs and the property of the members of the putative class was **unintentional** and otherwise actionable under the rules controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities.

162. Defendants' conduct in invading the property interests of the Propertied Plaintiffs with the aforesaid dioxin/furans was negligent and reckless and as such constituted an actionable nuisance, subjecting defendants to liability for any harm proximately caused by defendants' unlawful invasion of plaintiffs' property and the property of the putative class members the Propertied Plaintiffs represent.

163. Additionally, and in the alternative to plaintiffs' allegations that defendants' were negligent and reckless, plaintiffs allege dioxins/furans are an abnormally dangerous instrumentality and the production of dioxin is an abnormally dangerous activity within the meaning of *Rylands v. Fletcher L.R. 3 H.L. 330 (1868)* as cited in *Peneschi v. National Steel Corp., 295 S.E.2d 1 (W.Va. 1982).*[3]

164. Plaintiffs further allege that the aforesaid dioxins/furans contamination of the Old Monsanto Nitro Plant site is an abnormally dangerous condition.

[3] Elements of abnormally dangerous instrumentality or condition:
a. existence of high degree of risk of some harm to the person, land, or chattels of another;
b. likelihood that the harm that results will be great;
c. inability to eliminate the risk by exercise of reasonable care;
d. extent to which activity is not a matter of common usage;
e. inappropriateness of the activity to the place where it is carried out;
f. extent to which its value to the community is outweighed by its dangerous attributes.

165. The defendants for their own purposes and economic profit chose to create, handle and maintain the aforesaid dioxins/furans on their Nitro plant site premises. In so doing, the defendants released into the air "poisonous dust" which, as a matter of law, constitutes an abnormally dangerous activity.

166. Because the defendants created an abnormally dangerous condition and because the defendants engaged in an abnormally dangerous activity, the defendants are strictly liable to the Propertied Plaintiffs for any harm and injury proximately caused by the abnormally dangerous dioxins/furans.

167. As a direct and proximate consequence of the defendants and each of them maintaining and creating an abnormally dangerous condition and instrumentality on the aforesaid Nitro plant site, the Propertied Plaintiffs and the members of the putative class they represent have been injured and damaged, suffering loss of property and the plaintiffs have further been subjected to a great increase in the risk of developing serious diseases as more fully appears in plaintiffs' medical monitoring claims in Count _ below.

WHEREFORE, plaintiffs demand judgment against the defendants and each of them for the injury and damages hereinafter set forth caused by the defendants' aforesaid abnormally dangerous activities in an amount and manner more particularly set forth below.

C. Equitable Relief For Actionable Nuisance

168. Plaintiffs incorporate all preceding paragraphs and allegations.

169. Defendants, at the present time, are engaged in tearing down the Nitro plant site. This activity is causing the escape of dioxin laden dust from the site to the surrounding communities further enhancing the risk of harm to the citizens of these communities.

170. The risk of harm is irreparable and plaintiffs have no adequate remedy at law in the face of defendants' willful contamination of these communities.

171. Because dioxin continues to escape from the Nitro plant site, plaintiffs seek equitable relief in the form of an injunction to enjoin any further release of dioxin contaminated dust from the premises.

WHEREFORE, plaintiffs pray for the issuance of a permanent injunction, enjoining the defendants from further activity at the Nitro plant site until and unless the dioxin contamination is first abated.

ACTIONABLE TRESPASS

172. At common law, any act which directly brought foreign matter, whether a human being, an animate or inanimate chattel, or a structure, upon land in the possession of another was redressible in an action of trespass quare clausum fregit. The direct causal relation between the conduct of the actor and the intrusion of the foreign matter upon the possessor's land was sufficient to create a trespass.

173. One who recklessly or negligently, or as a result of an abnormally dangerous activity, enters land in the possession of another or causes a thing or third person so to enter is subject to liability to the possessor if, but only if, his presence or the presence of the thing or the third person upon the land causes harm to the land, to the possessor, or to a thing or a third

person in whose security the possessor has a legally protected interest. *Restatement (Second) of Torts section 165 (1965).*

174. In furtherance of their business interests, Old Monsanto and its successors, the defendants, caused the aforesaid dioxins/furans to be produced as by-products of the 2,4,5-T process at the aforesaid Nitro plant.

175. The defendants at relevant times recklessly or negligently, or as a result of the abnormally dangerous activity of producing dioxins at the Nitro Plant site, caused the property of the Propertied Plaintiffs to be invaded by aforesaid dioxins/furans, causing great and substantial harms to persons, land and chattels of the Propertied Plaintiffs and the members of the putative class they represent.

176. As a direct and proximate result of the defendants' trespass, as aforesaid, the plaintiffs and the members of the putative class have been harmed and injured as aforesaid in their person and property.

WHEREFORE the plaintiffs pray for damages in an amount hereinafter set forth and further, plaintiffs pray for equitable relief from the continued migration of dioxin from the Nitro Plant site to the lands and properties of the plaintiffs all as aforesaid.

RYLANDS V. FLETCHER – STRICT LIABILITY

177. Plaintiffs incorporate by reference each and every allegation and paragraph in the foregoing and adopt them as though fully set forth herein in the first instance.

178. Although the Propertied Plaintiffs' *Rylands* style strict liability claims may be subsumed within the nuisance allegations, all representative plaintiffs allege on behalf of all classes of putative class members that irrespective of nuisance, the defendants' operations at the Nitro Plant site were abnormally dangerous within the meaning of *Peneschi v. National Steel Corp, 295 S.E.2d.1 (W.Va. 1982),* which adopted the *Restatement (Second) of Torts 519 and 520 (1976)*[4] definition of "abnormally dangerous", later confirmed in *Bowers v. Wurzburg, 528 S.E.2d 475 (W.Va. 1999).*

179. Dioxins/furans are abnormally dangerous.

180. The production of dioxins/ furans is an abnormally dangerous activity.

181. Maintaining property contaminated with dioxins/furans is an abnormally dangerous activity.

182. The defendants in choosing to use, produce, maintain and otherwise create dioxins at the Nitro Plant site chose to create an abnormally dangerous instrumentality (dioxin) and are strictly liable without a showing of negligence for any injury proximately caused the plaintiffs and the members of the putative class by that instrumentality (dioxins/furans).

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[4] 519. GENERAL PRINCIPLE
(1) One who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.
(2) this strict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous.
520. ABNORMALLY DANGEROUS ACTIVITIES
In determining whether an activity is abnormally dangerous, the following factors are to be considered:
(a) existence of a high degree of risk of some harm to the person, land or chattels of others;
(b) likelihood that the harm that results from it will be great;
(c) inability to eliminate the risk by the exercise of reasonable care;
(d) extent to which the activity is not a matter of common usage;
(e) inappropriateness of the activity to the place where it is carried on; and
(f) extent to which its value to the community is outweighed by its dangerous attributes.

183. As a direct and proximate result of the defendants activities as aforesaid, but not limited thereto, poisonous and toxic dust has invaded the property and person of the plaintiffs and each of them and plaintiffs have, therefore been damaged and injured in their person and property as set forth above and more particularly stated below.

WHEREFORE the plaintiffs demand judgment of and from the defendants and each of them in an amount hereinafter prayed for.

MEDICAL MONITORING

184. The plaintiffs incorporate each and every paragraph and allegation in the foregoing Counts the same as though each were fully set forth verbatim herein in the first instance.

185. Sampling data establishes that the communities surrounding the Nitro Plant site are highly contaminated with dioxin. Sampling of the interior of thirteen homes in the area yielded dioxin levels several thousand times higher than United States EPA standards for dioxin levels in residential dirt.

186. Current exposure levels for the general population to dioxin is at or below the detection limit of 4 parts per trillion 2,3,7,8 TCDD or its TEQ. Plaintiffs and the putative class members are at risk of exposure to as much as 100,000 times the TEQ of 4 ppt dioxin.

187. Dioxin is a known human carcinogen and is so hazardous to human health that no "safe" level of exposure has been established.

188. The defendants' activities, as aforesaid, caused the plaintiffs and the members of the putative class to be exposed to dioxin contamination in the air, soil, and in the homes, places

of employment, governmental buildings, schools and public places of the plaintiffs and class members.

189. Because of the extraordinarily high dioxin levels in the environments of the effected communities, the plaintiffs and the members of the putative class are at an increased risk of contracting one or more serious and life threatening and life ending diseases including, but not limited to the following:

a. Chloracne, biochemical liver-test abnormalities, elevated blood lipids, fetal injury, and porphyria cutanea tarda;

b. Hormonal , neurologic, and immunologic injuries;

c. Carcinogenic, genetic, reproductive, and developmental effects;

d. Non-hodgkin's lymphoma, Hodgkin's lymphoma, and soft tissue sarcoma.

190. Early detection of the various cancers, blood diseases, endocrine diseases and developmental abnormalities increases the chances for successful treatment and management of the aforesaid adverse health conditions. Therefore, it is reasonably necessary for the plaintiffs to undergo periodic health monitoring and medical examinations different than medical care, examinations, and treatment plaintiffs and members of the putative class would undergo in the normal course of their lives had the complained of exposures not occurred.

191. Medical monitoring procedures exist that make early detection of the adverse medical conditions herein complained of possible and desirable.

192. Wherefore plaintiffs on behalf of themselves and the putative class members demand judgment of and from the defendants and each of them in an amount and manner which will assure the costs of medical monitoring will be paid.

DEMAND FOR JUDGMENT

193. The representative plaintiffs, on behalf of the putative classes demand as follows:

194. For the Propertied Plaintiffs and the putative class members making up the Propertied class, an amount adequate to compensate for loss of value of real estate and any improvements thereon, including the loss of use, any clean up costs and in the event of a total loss, the loss of the intrinsic value of a home. And the Propertied Plaintiffs further demand an amount sufficient to test their homes, buildings, and other property to determine the levels of dioxins/furans.

195. For the Medical Monitoring classes an amount sufficient to provide for testing of their persons to determine body burden of dioxins/furans and an amount sufficient to insure ongoing examinations and tests to provide for early detection of disease.

196. For the entire class of persons adversely affected by dioxins/furans contamination, as aforesaid, sufficient funds and monies to test the entire Class Affected area to determine the extent and nature of the dioxins/furans contamination along with sufficient funds to effect an environmental cleanup to restore the affected communities to environmental health in terms of dioxins/furans contamination.

197. For the entire class of persons, an order directing that the defendants be permanently enjoined from further releases of dioxins/furans for the Nitro plant site.

198. Inasmuch as the conduct of the defendants has been characterized by deliberate and willful conduct in causing the dioxins/furans contamination and because the defendants have over the years engaged in fraudulent cover-ups of the risks of dioxins/furans this case is appropriate for an award of punitive damages.

WHEREFORE as to all counts plaintiffs on behalf of themselves and those putative class members they represent demand judgment of and from the defendants and each of them, jointly and severely an amount sufficient to compensate them for their provable losses.

Plaintiffs further demand as and for punitive damages an amount equal to ten times the provable compensatory damages to deter the defendants from future conduct and protect other communities from similar conduct by these defendants in the future.

PLAINTIFFS DEMAND A TRIAL BY JURY AS TO ALL COUNTS.

VIRDIE ALLEN, et al
By Counsel

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and

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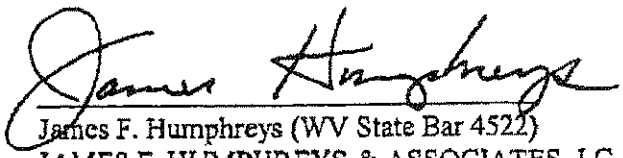

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OF COUNSEL:

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d

SUMMONS

IN THE SUPREME COURT OF NEW YORK COUNTY, NEW YORK

MARY B. SPAULDING and SANDY E. SPAULDING, husband	}	**INDEX NO.:_____ 09603107**
Plaintiff,	}	
	}	**SERVE:**
-against-	}	**Monsanto Company**
	}	**C/O Corporation Service Company**
MONSANTO COMPANY, PHARMACIA CORPORATION, FLEXSYS AMERICA CO., FLEXSYS AMERICA L.P., SOLUTIA INC.	}	**80 State Street Albany, New York 12207-2543**
Defendants	}	

FILED
OCT 09 2009
COUNTY CLERK'S OFFICE
NEW YORK

To the above-named Defendant:

IN THE NAME OF THE STATE OF NEW YORK, you are hereby summoned and required to serve upon, W. Stuart Calwell, Jr., plaintiff's attorney, and The Calwell Practice, PLLC, whose address is 500 Randolph Street, Charleston, West Virginia 25302, an answer, including any related counterclaim you may have, to the complaint filed against you in the above-styled civil action, a true copy of which is herewith delivered to you. You are required to serve an answer within 30 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for relief demanded in the complaint and you will be thereafter barred from asserting in another action any claim you may have which must be asserted by counterclaim in the above-styled civil action.

Dated:_____ _____

~~Clerk of Court~~

EXHIBIT
4

SUMMONS

IN THE SUPREME COURT OF NEW YORK COUNTY, NEW YORK

MARY B. SPAULDING and SANDY E. SPAULDING, husband	}	**INDEX NO.:** 603107/09
Plaintiff,	}	**SERVE:**
-against-	}	**Pharmacia Corporation C/O CT Corporation System 111 Eighth Avenue New York, New York 10011**
MONSANTO COMPANY, PHARMACIA CORPORATION, FLEXSYS AMERICA CO., FLEXSYS AMERICA L.P., SOLUTIA INC.	}	
Defendants	}	

FILED
OCT 09 2009
COUNTY CLERK'S OFFICE
NEW YORK

To the above-named Defendant:

IN THE NAME OF THE STATE OF NEW YORK, you are hereby summoned and required to serve upon, W. Stuart Calwell, Jr., plaintiff's attorney, and The Calwell Practice, PLLC, whose address is 500 Randolph Street, Charleston, West Virginia 25302, an answer, including any related counterclaim you may have, to the complaint filed against you in the above-styled civil action, a true copy of which is herewith delivered to you. You are required to serve an answer within 30 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for relief demanded in the complaint and you will be thereafter barred from asserting in another action any claim you may have which must be asserted by counterclaim in the above-styled civil action.

Dated:_____

_____
Clerk of Court

SUMMONS

IN THE CIRCUIT COURT OF PUTNAM COUNTY, WEST VIRGINIA

MARY B. SPAULDING and SANDY E. SPAULDING, husband	}	**INDEX NO.:** 09-C-310
Plaintiff,	}	**SERVE:**
v.	}	**Flexsys America Co.**
	}	**CT Corporation Systems**
MONSANTO COMPANY, PHARMACIA CORPORATION, FLEXSYS AMERICA CO., FLEXSYS AMERICA L.P., SOLUTIA INC.	}	**1300 E 9th Street Cleveland, Ohio 44114**
Defendants	}	

To the above-named Defendant:

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Dated:_____

_____
Clerk of Court

SUMMONS

IN THE CIRCUIT COURT OF PUTNAM COUNTY, WEST VIRGINIA

MARY B. SPAULDING and SANDY E. SPAULDING, husband	}	**INDEX NO.:** 603107/09
Plaintiff,	}	
	}	**SERVE:**
v.	}	**Flexsys America LP**
	}	**CT Corporation Systems**
MONSANTO COMPANY, PHARMACIA CORPORATION, FLEXSYS AMERICA CO., FLEXSYS AMERICA L.P., SOLUTIA INC.	}	**1300 E 9th Street Cleveland, Ohio 44114**
Defendants	}	

FILED
COUNTY CLERK'S OFFICE
NEW YORK
OCT 09 2009

To the above-named Defendant:

IN THE NAME OF THE STATE OF NEW YORK, you are hereby summoned and required to serve upon, W. Stuart Calwell, Jr., plaintiff's attorney, and The Calwell Practice, PLLC, whose address is 500 Randolph Street, Charleston, West Virginia 25302, an answer, including any related counterclaim you may have, to the complaint filed against you in the above-styled civil action, a true copy of which is herewith delivered to you. You are required to serve an answer within 30 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for relief demanded in the complaint and you will be thereafter barred from asserting in another action any claim you may have which must be asserted by counterclaim in the above-styled civil action.

Dated:_____

_____
Clerk of Court

SUMMONS

IN THE SUPREME COURT OF NEW YORK COUNTY, NEW YORK

MARY B. SPAULDING and SANDY E. SPAULDING, husband	}	**INDEX NO.:** 603107/09
Plaintiff,	}	
	}	**SERVE:**
-against-	}	**Solutia Inc.**
	}	**C/O CT Corporation Systems**
MONSANTO COMPANY, PHARMACIA CORPORATION, FLEXSYS AMERICA CO., FLEXSYS AMERICA L.P., SOLUTIA INC.	}	**111 Eighth Avenue New York, New York 10011**
Defendants	}	

To the above-named Defendant:

IN THE NAME OF THE STATE OF NEW YORK, you are hereby summoned and required to serve upon, W. Stuart Calwell, Jr., plaintiff's attorney, and The Calwell Practice, PLLC, whose address is 500 Randolph Street, Charleston, West Virginia 25302, an answer, including any related counterclaim you may have, to the complaint filed against you in the above-styled civil action, a true copy of which is herewith delivered to you. You are required to serve an answer within 30 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for relief demanded in the complaint and you will be thereafter barred from asserting in another action any claim you may have which must be asserted by counterclaim in the above-styled civil action.

Dated:_____

_____
Clerk of Court

IN THE SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK

----------X

MARY B. SPAULDING
and SANDY E. SPAULDING, husband,

Plaintiffs,

09603107

-against-

COMPLAINT

Index No.:_____

MONSANTO COMPANY,
PHARMACIA CORPORATION,
FLEXSYS AMERICA CO.,
FLEXSYS AMERICA L.P.,
and SOLUTIA INC.

Defendants

----------X

Introduction and Parties

1. The Plaintiffs, Mary B. Spaulding and Sandy E. Spaulding, by and through their counsel, Stuart Calwell and The Calwell Practice, PLLC for their complaint allege and state as follows:

2. The Plaintiff, Mary B. Spaulding claims that her Peripheral Neuropathy was caused by exposure to dioxins/furans contamination of the air and property in and around Nitro, West Virginia; Plaintiff alleges the same series of occurrences involving the negligent and otherwise unlawful release of dioxin from Defendants' waste disposal practices on properties owned and/or controlled by the Defendants located in and about Nitro, West Virginia, caused her to develop or significantly contributed to her developing peripheral neuropathy. Plaintiff's claims

are based entirely on the Defendants' disposal practices regarding dioxins/furans contaminated wastes.

3. Plaintiff is a resident and/or former resident of Nitro, West Virginia, and/or one or more of several communities surrounding a now defunct chemical plant located near Nitro, West Virginia, and/or worked, and/or attended school in Nitro, West Virginia, and/or one or more of several communities surrounding the now defunct Monsanto chemical plant located in Nitro, as will be more particularly shown below.

4. The former Monsanto Company (hereafter Old Monsanto) owned and operated the plant from approximately 1934 to approximately 2000. Beginning in 1949 and continuing through 1970 Old Monsanto produced at the plant site a commercial, agricultural herbicide, 2,4,5 – trichlorophenoxyacidic acid (hereafter 2,4,5-T), which was heavily contaminated with dibenzo dioxins and dibenzo furans including 2,3,7,8 tetrachlorodibenzoparadioxin (hereafter collectively dioxins/furans). Beginning in 1949 and thereafter at all relevant times the Defendants began to dispose of dioxin-contaminated waste generated by the aforementioned process in a manner which caused dioxins/furans to escape into the atmosphere contaminating the air in and around the areas where the Plaintiff lived.

5. Plaintiffs bring this action against the defendants and each of them for directly causing Plaintiff, Mary B. Spaulding to develop Peripheral Neuropathy as a result of their waste disposal and waste management practices related to the aforementioned dioxin-contaminated material. Plaintiffs further brings this action against the above-named defendants and each of them as successors to the dioxins/furans related legacy liabilities of the Old Monsanto Company's Agricultural Division for causing Plaintiff's Peripheral Neuropathy and/or for

causing the air and property to become contaminated with the aforesaid dioxins/furans, as a result of their waste disposal practices related to dioxin-contaminated material.

6. As a result of the aforesaid dioxins/furans contamination, Plaintiff Mary B. Spaulding was caused to breathe dioxins/furans-contaminated air, touch dioxins/furans-contaminated soil, live in dioxins/furans-contaminated homes, and ingest dioxins/furans during the entire time she lived, worked, or attended school in the dioxins/furans-contaminated areas.

7. As a direct and proximate result of the aforesaid exposures Plaintiff, Mary B. Spaulding contracted Peripheral Neuropathy which is known to be caused and/ or promoted by exposure to dioxins/furans.

JURISDICTION AND VENUE

8. This Court is a proper venue for this action because Defendant Pharmacia Corporation's principal offices are located in New York County.

9. This Court has personal jurisdiction over each of the defendants because each of the defendants regularly conducts business in the State of New York.

IDENTITY OF THE PARTIES

10. Plaintiffs are residents and/or former residents of Nitro, West Virginia, and/or one or more of several communities surrounding the former location of the Old Monsanto plant in Nitro, West Virginia, and/or worked, and/or attended school in these areas. Plaintiff, Mary B. Spaulding has been diagnosed with Peripheral Neuropathy.

DEFENDANTS

11. The defendant, Monsanto Company, is a corporation, with its principal place of business in the State of Missouri.

12. The defendant, Pharmacia Corporation, is a corporation, with its principal place of business in the State of New York.

13. The defendant, Flexsys America Co., is a corporation, with its principal place of business in the State of Ohio.

14. The defendant, Flexsys America, L.P. is a corporation, with its principal place of business in the State of Ohio.

15. The defendant Solutia Inc. is a corporation with its principal place of business in St. Louis, Missouri.

THE LEGACY OF "OLD MONSANTO"

16. Because the Defendant, Monsanto, is a "new" company, and because certain defendants, including "New Monsanto" are liable for the unlawful conduct of "Old Monsanto" a brief recitation of the history of these two relatives is necessary.

17. Old Monsanto was created soon after the turn of the last century and operated continuously either as the Monsanto Chemical Company or simply as the Monsanto Company, until its pupation into one or more of the herein named defendants sometime during and after approximately 1997.

18. Prior to September 1, 1997, Old Monsanto's organization included three divisions: the Agricultural Products Division (or some similar name), the Pharmaceuticals and Nutrition Division (or some similar name) and the Chemical Products Division (or some similar name).

19. Old Monsanto acquired its Nitro plant from Rubber Services Industries sometime in the late 1920's or early 1930's with the intention of supplying rubber chemicals to the tire industry in Akron, Ohio, and elsewhere.

20. Old Monsanto's Nitro plant was primarily a Chemical Products Division plant. But the Nitro plant was also home to one of Old Monsanto's Agricultural Division's products. More particularly, Old Monsanto's Agricultural Division produced, as aforesaid, the phenoxy herbicide at its Nitro plant known as 2, 4, 5,-T from 1949 through 1971.

21. The workers who manufactured this herbicide referred to it simply as "weed bug". All "weed bug" manufactured by Old Monsanto was heavily contaminated with the aforesaid dioxins/furans.

OLD MONSANTO'S KNOWLEDGE REGARDING DIOXIN

22. In the late 1940's Old Monsanto's Nitro plant was housed in buildings and sheds constructed by the United States Government in 1917-1918 as part of a nitro-cellulose (gunpowder) plant to produce munitions for World War I.

23. Plant structures were nothing more than a series of open-ended sheds and brick parapet walls scabbed together to provide a roof over the giant cooking pots and other paraphernalia used in the production of basic chemical products.

24. In approximately 1947, Old Monsanto's Agricultural Division began to produce on an experimental scale a molecule, that in its logically pure form was known as 2, 4, 5,-trichlorophenoxyacidic acid, or the aforesaid 2, 4, 5,-T. This molecule exhibited toxicity to plants by causing their root systems to outgrow their leaf systems, thus causing the plant to destroy itself through a process of defoliation.

25. In 1949, Old Monsanto's Agricultural Division "started up" its 2, 4, 5,-T manufacturing process at the Nitro plant. At that time and continuing through the early sixties Old Monsanto produced 2, 4, 5,-T in a "batch" process at the Nitro plant. This simply meant that batches of the product were cooked (reacted) as opposed to a continuous production stream. Large pots (autoclaves) were loaded with precursor chemicals, which were allowed to react (cook) to form the 2, 4, 5,-T molecule.

26. In 1949, a reaction in one of the 2, 4, 5,-T autoclaves went out of control. Heat and pressure built and a safety disk blew open, discharging the contents of the vessel to the atmosphere through the roof of building 34. A large cloud drifted over the plant and over the town. 226 plant workers became ill. Some were sent to the University of Cincinnati's Kettering Institute to be examined by Dr. Raymond Suskind. In three confidential reports to Old Monsanto dated 1949, 1952 and 1953, it was reported that the "unknown products of decomposition" liberated from the 2, 4, 5,-T autoclave caused a systemic intoxication in the workers involving most major organ systems, the endocrine system, the nervous system (both central and peripheral) and further resulted in a systemic acne dubbed "chloracne". The affected workers at the plant referred to the acne simply as "weed bumps".

27. In 1957, two German scientists, Kimmig and Schultz, published the findings of research into the "unknown toxic by-products" of chlorinated benzene processes. They identified the toxin as dioxin, a molecule another German had patented in the 1890's. The technology of gas chromatography permitted the identification of the dioxin molecule and it was determined that it was this toxin that was the culprit in Old Monsanto's Nitro 1949 release.

28. From 1949 until 1971, Old Monsanto's Agricultural Division produced 2, 4, 5-T on a continuous basis in its trichlorophenol plant in Nitro. Each and every ounce and each and

every molecule of this product had associated with it the contaminants, the aforesaid dioxins/furans.

29. The production of dioxin contaminated 2, 4, 5,-T continued 7 days a week 365 days a year from 1949 to approximately 1971 at the Monsanto Nitro plant. During this entire time period, dioxin-contaminated wastes were burned, 7 days a week, in an open 20 feet by 40 feet pit on the plant site as well as at off-site dumps – including at least one dump site owned and or controlled by the coal company defendant -- causing dioxin/furans-contaminated particulate matter to contaminate the air and property in Nitro and surrounding area.

30. In approximately 1972, Old Monsanto dismantled the 2, 4, 5,-T building and buried it, due to its dioxins/furans contamination, on the plant site.

31. At all times relevant, Old Monsanto and the herein named defendants had actual knowledge of the dioxins/furans contamination problem at Nitro and the surrounding communities and in the alternative certain of the defendants knew or with the exercise of reasonable care should have known of the aforesaid contamination.

SOLUTIA INC.

32. Solutia Inc. (hereafter "Solutia"), was incorporated in April 1997 by Old Monsanto corporate insiders. Solutia is simply the renamed Queeny Chemical Company[1], a subsidiary of Old Monsanto.

33. On or about September 1, 1997, Old Monsanto entered into a Distribution Agreement with Solutia, which transferred the operations, assets and liabilities of Old Monsanto's Chemicals Division to Solutia.

34. In connection with the aforesaid distribution to Solutia, Old Monsanto distributed on a one to five basis all of the stock of Solutia to Old Monsanto shareholders (the "spinoff").

35. Solutia was created by Old Monsanto insiders as the vessel into which Old Monsanto and the named defendants sought to concentrate their liabilities arising from the environmentally ruinous historical conduct of Old Monsanto at its various Chemicals Division operations throughout the United States, including Nitro, West Virginia.

36. On information and belief, Solutia agreed to assume Old Monsanto's Chemicals Division legacy liability because at the time Solutia was being controlled by former Old Monsanto corporate insiders.

37. Old Monsanto did not, however, transfer all operations, assets and liabilities to Solutia. The so-called agriculture business was not transferred. The pharmaceutical and nutrition businesses were, likewise, retained by Old Monsanto.

38. As aforesaid, the Nitro plant was part of the chemicals division and was distributed to Solutia. After the distribution, Solutia was an owner and/or controller of the Nitro plant premises, and during such time, the Flexsys defendants operated the plant's facilities.

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[1] The Queeny Plant and Old Monsanto had their beginnings simultaneously in 1901. John Francis Queeny and Dr. Louis Veillon launched these enterprises simultaneously, naming Monsanto after John Queeny's wife Olga Monsanto Queeny.

39. Upon information and belief, following a brief six-year "effort" by Solutia to operate plants in 18 areas of the United States, Solutia and 14 of its corporate affiliates filed petitions for relief under chapter 11 of title 11, United States Code (the Bankruptcy Code) in the United States Bankruptcy Court for the Southern District of New York. Solutia emerged from bankruptcy on or about February 28, 2008.

MONSANTO COMPANY

40. The defendant Monsanto Company (hereinafter New Monsanto), is the successor in interest to the liabilities of Old Monsanto.

41. New Monsanto was incorporated in February 2000 as a subsidiary of the defendant, Pharmacia Corporation ("Pharmacia"), under the name Monsanto Ag Company.

42. On March 31, 2000, New Monsanto changed its name from "Monsanto Ag Company" to "Monsanto Company".

43. On September 1, 2000, Pharmacia transferred the assets and liabilities of its agricultural business to New Monsanto pursuant to the terms of a Separation Agreement.

44. On October 23, 2000, New Monsanto sold 38,033,000 shares of its common stock in an initial public offering at a price of $20 per share. Pharmacia continued to own the remaining shares, representing 85.2% of the outstanding shares.

45. On August 13, 2002, Pharmacia spun off its remaining interest in New Monsanto by distributing its entire ownership of New Monsanto stock to Pharmacia shareholders by means of a tax-free dividend. The stated reasons for the separation of the agricultural business from the other businesses of Pharmacia were that as a separate company, the agricultural business could

have a more focused investor base, greater strategic focus and the ability to offer better incentives to employees.

46. Under the terms of the Separation Agreement, New Monsanto agreed to indemnify Pharmacia for any liability it might have for environmental remediation or other environmental responsibilities primarily related to Pharmacia's former agricultural or chemical businesses.

47. The aforesaid Separation Agreement provided that New Monsanto would indemnify Pharmacia for environmental liabilities that Solutia, the former chemicals business of Pharmacia, assumed pursuant to the aforesaid Distribution Agreement, to the extent that Solutia failed to pay, perform or discharge those liabilities.

48. On July 1, 2002, in anticipation of the spinoff of New Monsanto, Pharmacia and New Monsanto entered into a First Amendment to the Separation Agreement ("Amendment"). In the amendment, the definition of "Former Agricultural Business" was amended by adding the following language at the end of Schedule F-1 under the heading "Other Former Businesses": **"34. discontinued herbicides, including, without limitation, 2,4-D (2,4 dichlorophenoxyacetic acid) and 2,4,5-T (2,4,5 trichlorophenoxyacetic acid)"** (emphasis added). This amendment made it clear that the New Monsanto was keeping its agricultural liabilities. The New Monsanto emerged from the tangle of business deals instigated by Old Monsanto, with Old Monsanto's valuable agricultural assets intact and ostensibly protected from Old Monsanto's Chemicals Division legacy liability.

49. New Monsanto maintains its principal offices in St. Louis, MO, the same corporate park occupied for decades by the Old Monsanto. New Monsanto rarely refers to its

former self by the name "Monsanto", choosing instead to refer to legacy issues in the name of the defendant Pharmacia, a company that did not exist prior to March 31, 2000.

PHARMACIA CORPORATION

50. Pharmacia Corporation ("Pharmacia") was originally incorporated under the name Monsanto Company (the successor to a Missouri corporation, Monsanto Chemical Works).

51. On March 31, 2000, MP Sub, Incorporated, a wholly-owned subsidiary of Pharmacia (then named Monsanto Company), merged with and into Pharmacia & Upjohn, Inc. ("P&U") pursuant to the terms of an Agreement and Plan of Merger dated as of December 19, 1999, among the parties (the "Merger Agreement").

52. As a result of the merger, each share of common stock of P&U was converted into 1.19 shares of the common stock of Pharmacia, and each share of Series A Convertible Perpetual Preferred Stock of P&U was converted into one share of a new series of convertible preferred stock of Pharmacia designated as Series B Convertible Preferred Stock.

53. As a part of the aforesaid merger, Old Monsanto was renamed Pharmacia Corporation and P&U became a subsidiary of Pharmacia.

54. After the merger, the agricultural operations of Pharmacia were transferred to New Monsanto.

55. On July 13, 2002, Pfizer Inc. ("Pfizer") entered into an Agreement and Plan of Merger (the "Merger Agreement") with Pharmacia and Pilsner Acquisition Sub Corp., a direct wholly-owned subsidiary of Pfizer (the "Merger Sub").

56. The aforesaid merger was completed on July 16, 2003, at which time the Merger Sub was merged with and into Pharmacia, and Pharmacia survived the merger as a wholly-owned subsidiary of Pfizer.

57. Each Pharmacia shareholder received 1.4 shares of Pfizer stock for each share of Pharmacia stock, and each share of Pharmacia's Series C convertible perpetual preferred stock was exchanged for one share of Pfizer Series A convertible perpetual preferred stock.

58. The total estimated purchase price paid by Pfizer was $56 billion.

59. A condition precedent to Pfizer paying the purchase price was that Pharmacia had to cause one of the following to occur:

(i) a spin-off of New Monsanto,

(ii) the sale of all or substantially all of the assets of New Monsanto followed by the liquidation and dissolution of New Monsanto, or

(iii) the sale of all of Pharmacia's equity interest in Monsanto.

60. Pharmacia has offices in St. Louis, Missouri.

61. At all relevant times, Pharmacia and its subsidiaries, owned, occupied, and otherwise controlled the aforesaid contaminated Nitro plant.

62. Further at all relevant times, Pharmacia was and is a successor to the liabilities of Old Monsanto and Pharmacia has and continues to aid and abet Monsanto in the contamination of the communities surrounding the Nitro plant.

FLEXSYS AMERICA CO., FLEXSYS AMERICA, L.P.,

63. The defendants, Flexsys America Co and Flexsys America, L.P., are corporations (collectively "Flexsys").

64. Each of these defendants maintains its principal place of business in the State of Ohio and at all times relevant each of the defendants, Flexsys, were licensed to do business in the State of West Virginia and were doing business in the State of West Virginia.

65. The defendants, Flexsys, are and were created by Flexsys NV, an incorporated joint venture existing under and by virtue of the laws of Belgium, formed in 1995 between Akzo Nobel NV and Old Monsanto, and maintaining a principal place of business in Woluwe, Belgium.

66. The defendants, Flexsys, were formed for the purpose of carrying out various complex business ventures with the other defendants as more particularly appears below.

67. At relevant times, the defendants, Flexsys, were in joint ventures with Old Monsanto and at relevant times were in joint ventures with the other defendants, including Pharmacia and New Monsanto, for the purpose, but not limited thereto, of operating and controlling the Old Monsanto Nitro plant near Nitro, West Virginia.

68. To carry out the aforesaid joint venture, Akzo and Old Monsanto entered into a "Master Operating Agreement" and certain amendments thereto as of January 1, 1995. The Master Operating Agreement provided that Flexsys was to be the operator of the Nitro plant providing services to Solutia, as guest, at Nitro.

69. At various and relevant times Flexsys owned, operated or had control of the Nitro, West Virginia, plant site. During these times the defendants, Flexsys, knew and had reason to know of the aforesaid dangerous dioxin contamination existing at the Nitro plant site and further knew or had reason to know that dioxin contamination was leaving the plant site causing the communities in the surrounding area to become contaminated with dioxin and other related toxins.

70. At all relevant times the defendants, Flexsys, had control of, operated, and otherwise had responsibility for Old Monsanto's Nitro Plant. At all such times, these defendants knew, should have known, and were in a position to know of the risks of contamination and off site contamination presented by the dioxin/furan contaminated environment of the Nitro Plant site. The Flexsys defendants are successors to the liability of Old Monsanto for off-site dioxin/furan contamination with reference to the Nitro site and these defendants are jointly and severely liable with the other defendants.

71. At all times relevant, the defendants were doing business in the State of West Virginia, at, by and through their chemical plant located on Plant Road, Nitro, West Virginia.

ALLEGATIONS OF FACT AND CAUSES OF ACTION

72. Plaintiffs incorporate each and every allegation above, and specifically directs the reader to the section "The Legacy of Old Monsanto".

73. The town of Nitro was built, as were the Nitro plant buildings, during 1917-1918. Bungalows, store buildings, schools and other buildings were constructed all as a part of a government reservation to house munitions plant employees and their families. When the government moved out and the chemical plants moved in, the town became populated with chemical plant workers and their families. Many of the original World War I buildings and houses still exist and are still occupied. Additionally, over the years new houses were built and the population of the river bottom towns of Nitro, Poca, Bancroft and Saint Albans grew as did unincorporated communities around the towns.

74. During the years that Old Monsanto was operating its trichlorophenol plant, it adopted an unlawful practice of disposing of dioxin waste materials by a continuous process of

open "pit" burning. This practice was largely denied by Old Monsanto whose representatives characterized the practice as an "incineration process" when asked by regulatory authorities.

75. Old Monsanto and its successors in the years following the cessation of 2,4,5-T production (1970 to the present) failed to adequately control the dioxin contaminated soils and other dioxin contaminated waste materials both on and off the plant site. Dioxins/furans continued to be re-deposited and re-distributed from the plant site and the off-site dumps so as to continue the process of air and property contamination.

76. The non-Monsanto Defendants knew or should have known of the dioxin contamination at the Nitro plant site. These Defendants, jointly, severally, and in concert failed to take affirmative steps to stop the continued escape of dioxins/furans from the aforesaid sites. Indeed, these Defendants acted carelessly, negligently, recklessly, and/or deliberately in ways to increase the escape of dioxin to the Nitro area as afore-described.

NEGLIGENCE

77. Plaintiffs incorporate each of the foregoing paragraphs.

78. Each of the Defendants at all relevant times owed a duty to the Plaintiffs, to act with due care in the disposal of dioxin-contaminated materials (and the contamination remaining as a result of prior waste disposal practices) to prevent the contamination of the air and property of Nitro and the surrounding area.

79. Each of the Defendants at all relevant times knew or in the exercise of reasonable diligence should have known of the highly toxic properties of dioxin and that dioxin was and is a known promoter of peripheral neuropathy and that dioxin was and is a known human carcinogen.

80. At all times relevant the Defendants, and each of them, knew that the area around the Monsanto plant was populated with permanent residents who would likely live out their lives in the area contaminated by the Defendants' dioxin.

81. At all times relevant, the Defendants, and each of them, knew that dioxins/furans are slow acting poisons with long latency periods so that detection and causation become difficult and expensive to prove. The Defendants, acting on that knowledge, deliberately allowed the aforesaid area to become dangerously contaminated. The defendants were and are gambling that the passage of time will shield the Defendants and each of them from accountability for their dreadful acts, allowing the Defendants to blame the vagaries of life for the Peripheral Neuropathy Plaintiff, Mary B. Spaulding suffers.

82. At all times relevant, the Defendants, and each of them, as aforesaid, disposed of, or allowed the disposal of, dioxin-contaminated waste in a negligent, careless, reckless and/or deliberate manner and in so doing breached the duties aforesaid owed to the Plaintiffs.

83. As a direct and proximate result of the conduct of the Defendants as aforesaid, but not limited thereto, Plaintiff, Mary B. Spaulding has been injured and caused to suffer Peripheral Neuropathy and as a consequence and have been damaged in ways and in amounts hereinafter set forth.

RYLANDS V. FLETCHER – STRICT LIABILITY

84. Plaintiffs incorporate by reference each and every allegation and paragraph in the foregoing and adopts them as though fully set forth herein in the first instance.

85. The defendants' disposal of dioxin-contaminated waste was abnormally dangerous within the meaning of *Peneschi v. National Steel Corp, 295 S.E.2d 1 (W.Va. 1982),*

which adopted the *Restatement (Second) of Torts 519 and 520 (1976)*[2] definition of "abnormally dangerous", later confirmed in *Bowers v. Wurzburg, 528 S.E.2d 475 (W.Va. 1999).*

86. As a direct and proximate result of the Defendants activities as aforesaid, poisonous and toxic dust and particulate matter has invaded the property and person of the Plaintiff, Mary B. Spaulding and have, therefore been damaged and injured in her person and property as set forth above and more particularly stated below.

WHEREFORE the Plaintiffs demands judgment of and from the Defendants and each of them in an amount hereinafter prayed for.

NUISANCE

87. Plaintiffs incorporate by reference each and every allegation and paragraph in the foregoing and adopt them as though fully set forth herein in the first instance.

88. Private nuisance is solely a matter of tort liability. The interest in the private use and enjoyment of land may be invaded by more than one type of conduct. The invasion may be intentional and unreasonable. It may be unintentional but caused by negligent or reckless conduct; or it may result from an abnormally dangerous activity for which there is strict liability.

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[2] 519. GENERAL PRINCIPLE
(1) One who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.
(2) this strict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous.
520. ABNORMALLY DANGEROUS ACTIVITIES
In determining whether an activity is abnormally dangerous, the following factors are to be considered:
(a) existence of a high degree of risk of some harm to the person, land or chattels of others;
(b) likelihood that the harm that results from it will be great;
(c) inability to eliminate the risk by the exercise of reasonable care;
(d) extent to which the activity is not a matter of common usage;
(e) inappropriateness of the activity to the place where it is carried on; and
(f) extent to which its value to the community is outweighed by its dangerous attributes.

On any of these bases the defendants may be liable. *Restatement (2d) of Torts Section 822 comment a (1979).*

89. Plaintiff, Mary B. Spaulding at all relevant times enjoyed a legally protected interest in the private use and enjoyment of her property. Included within this interest of private use and enjoyment is the interest in enjoying her property without exposure to dioxin contamination sustaining an injury to her person as a result of such exposure. At all times relevant, the defendants invaded Plaintiffs legally protected property interests by causing her property to become contaminated with the aforesaid dioxins/furans, thus injuring the Plaintiff, Mary B. Spaulding as aforesaid.

A. Intentional Nuisance - Strict Liability.

90. Plaintiffs incorporate by reference all foregoing paragraphs the same as though each were fully set forth herein verbatim in the first instance.

91. Since 1949 the defendants by virtue of the actions of Old Monsanto Company and its successor, The Monsanto Company, and the other defendants by virtue of their actions, jointly, severally and as successors to the liability of Old Monsanto Company, created and maintained a nuisance on the property known as the "Monsanto Plant," and other locations referenced herein by disposing of dioxins/furans contaminated waste as aforesaid.

92. As a result of such waste disposal practices, dioxins/furans escaped from the defendants' property to the lands and property of the Plaintiff, Mary B. Spaulding. Plaintiffs allege that the defendants, by their waste disposal practices, intended to cause dioxins/furans to escape to the lands of the Plaintiffs.

93. Because the defendants knew or should have known that their conduct in disposing of dioxins/furans-contaminated as aforesaid and causing dioxins/furans to escape their

property and Nitro Plant site would substantially and unreasonably interfere with Plaintiff, Mary B. Spaulding interests in the use and safe enjoyment her property, the defendants' conduct in so doing was and is intentional and unreasonable within the meaning of *Hendricks v. Stalnaker*, 380 S.E.2d 198, 202 (W.Va. 1989), and as such constitutes an intentional and actionable nuisance.

94. Because the gravity of the harm to the Plaintiff, Mary B. Spaulding presented by her exposure to dioxins/furans and subsequent development of Peripheral Neuropathy outweighs the social value of the defendants' wastes disposal practices, as aforesaid, the defendants' contamination of plaintiffs property by their waste disposal practices is unreasonable.

95. Because the defendants' conduct, as aforesaid, in interfering with Plaintiffs property interests was and is intentional and unreasonable, the defendants and each of them are strictly liable to Plaintiffs for the harm and damages proximately caused thereby.

96. As a direct and proximate cause of the defendants' invasion of the Plaintiffs property with dioxins/furans from defendants' waste disposal practices, the Plaintiff, Mary B. Spaulding sustained the aforementioned personal injury as a result of the use of her property.

WHEREFORE, the Plaintiffs demand judgment of and from the Defendants and each of them in an amount hereinafter prayed for.

B. Unintentional and Otherwise Actionable Nuisance.

97. Plaintiffs incorporate all allegations and preceding paragraphs the same as though fully set forth herein in the first instance.

98. In the alternative, defendants' conduct in contaminating Plaintiffs property as a result of their waste disposal practices was unintentional and otherwise actionable under the rules

controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities.

99. Defendants' conduct, as aforesaid, in invading the property interests of the Plaintiffs with the aforesaid dioxins/furans was negligent and reckless and as such constituted an actionable nuisance, subjecting defendants to liability for any harm proximately caused by defendants' unlawful invasion of Plaintiffs property.

100. Additionally, and in the alternative to Plaintiffs allegations that defendants' were negligent and reckless, Plaintiffs allege that the disposal of dioxins/furans-contaminated waste is an abnormally dangerous activity within the meaning of *Rylands v. Fletcher* L. R. 3 H. L. 330 (1868) as cited in *Peneschi v. National Steel Corp.*, 295 S.E.2d 1 (W.Va. 1982).

101. The defendants for their own purposes and economic profit chose to dispose of dioxin-contaminated waste by burning such waste in what were essentially bonfires, as aforesaid. By doing so, the defendants released "poisonous dust" into the air which, as a matter of law constitutes an abnormally dangerous activity.

102. Because the defendants engaged in an abnormally dangerous activity, the defendants are strictly liable to the Plaintiffs for any harm and injury proximately caused by their waste disposal practices.

103. As a direct and proximate cause of the defendants' invasion of the Plaintiffs property with dioxins/furans from defendants' waste disposal practices, the Plaintiff, Mary B. Spaulding sustained the aforementioned personal injury as a result of the use of her property.

WHEREFORE, the Plaintiffs demand judgment of and from the Defendants and each of them in an amount hereinafter prayed for.

LOSS OF CONSORTIUM

104. As a direct and proximate result of the aforesaid conduct of the Defendants, and each of them, Plaintiff, Sandy E. Spaulding has suffered the loss of spousal consortium with his wife, Mary B. Spaulding, including the loss of her affection, loss of her care, income and other services, loss of her other duties, obligations, and responsibilities as a wife, and has been caused to provide nursing and other personal care services to his wife.

ACTIONABLE TRESPASS

105. Plaintiffs incorporate by reference each and every allegation and paragraph in the foregoing and adopt them as though fully set forth herein in the first instance.

106. At common law, any act which directly brought foreign matter, whether a human being, an animate or inanimate chattel, or a structure, upon land in the possession of another was redressable in an action of trespass *quare clausum fregit*. The direct causal relation between the conduct of the actor and the intrusion of the foreign matter upon the possessor's land was sufficient to create a trespass.

107. One who recklessly or negligently, or as a result of an abnormally dangerous activity, enters land in the possession of another or causes a thing or third person so as to enter is subject to liability to the possessor if, but only if, her presence or the presence of the thing or the third person upon the land causes harm to the land, to the possessor, or to a thing or a third person in whose security the possessor has a legally protected interest. *Restatement (Second) of Torts section 165 (1965)*

108. The defendants, at all relevant times, recklessly or negligently, or as a result of the abnormally dangerous activity of disposing of dioxin/furans-contaminated waste by burning it in

large bonfires, caused the property of the Plaintiff, Mary B. Spaulding to be invaded by aforesaid dioxins/furans, causing great and substantial harm to her person.

109. As a direct and proximate cause of the defendants' invasion of the Plaintiffs property with dioxins/furans from defendants' waste disposal practices, the Plaintiff, Mary B. Spaulding sustained the aforementioned personal injury as a result of the use of her property.

WHEREFORE, the Plaintiffs demand judgment of and from the Defendants and each of them in an amount hereinafter prayed for.

PRAYER FOR RELIEF AND COMPENSATORY DAMAGES

110. Plaintiffs demand judgment of and from the Defendants and each of them in an amount to fairly compensate her for past, present and future medical bills; lost wages; past, present, and future pain and suffering, mental anguish, loss of consortium and loss of enjoyment of life.

WHEREFORE, Plaintiffs demand judgment of and from the Defendants and each of them in an amount to fairly compensate them for compensatory damages.

PUNITIVE DAMAGES

111. Defendants' actions, or some of them, were undertaken in a willful, wanton, and reckless manner evidencing a callous disregard for the health and wellbeing of the residents of the Nitro area.

112. Plaintiffs are entitled to punitive damages to punish and deter Defendants' for such conduct.

WHEREFORE, Plaintiffs demand as and for punitive damages in an amount sufficient to deter defendants from future conduct as above set forth.

DEMAND FOR JURY TRIAL

The Plaintiffs herein demand a trial by jury on all issues.

Dated: October 7, 2009
New York, New York

W. Stuart Calwell, Jr., (4256251)
THE CALWELL PRACTICE PLLC
Law and Arts Center West
500 Randolph Street
Charleston, West Virginia 25301
(304) 343-4323

3/24/67

U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION
WASHINGTON, D.C. 20230

In Reply Refer to:
BDSA Case No. 28500-3

Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63166

Attention: Mr. Robert Z. Rumer
Vice President

MAR 24 1967

Gentlemen:

You are hereby directed to accelerate the delivery of your existing DO rated orders for the defoliant "Orange" to a monthly rate of 125,000 gallons beginning April 3, 1967. If for any reason you are unable to comply with this directive, communicate immediately with the Business and Defense Services Administration, Chemicals and Allied Products Division, Washington, D.C. 20230, stating your reasons and using the form letter enclosed for your convenience.

You are further directed to provide BDSA with a monthly report of your production, total shipments, shipments against rated orders, and end of month inventory of 2,4,5-T and 2,4-D. Mr. Wesley R. Koster, Director of the Chemicals and Allied Products Division, will be in touch with you to work out the reporting schedule.

This action is taken pursuant to [redacted] of the Defense Production Act of 1950, as amended.

We have informed the Defense General Supply Center, Richmond, Virginia, that your capacity for the production of "Orange" will be at the rate of 125,000 gallons per month beginning April 3, 1967. It is our understanding that DO rated orders will be placed on you by DGSC for delivery at the above rate beginning with the termination of your existing priority rated orders. The terms of the new contracts are to be worked out between you and the DGSC.

Your requirements for tetrachlorobenzene may be obtained by placing DO rated orders on your supplier. We have informed the Hooker Chemical Corporation of your need for 600,000 pounds of TCB per month beginning April 3, 1967. If you encounter any difficulty in obtaining your needs of raw materials, please let us know immediately.

Sincerely yours,

BUSINESS AND DEFENSE SERVICES ADMINISTRATION
Executive Secretary

Enclosure

000204

MAR 24 1967

EXHIBIT 5

U. S. Department of Commerce
Business and Defense Services
Administration - 544

Case No. 28500-3

Division Chemicals and Allied Products

Washington, D. C. 20230

Gentlemen:

Receipt is acknowledged of the above directive dated MAR 24 1967

☒ We can comply with this directive. *

☐ We cannot comply with this directive for the following reasons:

* Subject to following:-
1) That Hooker Chemical Co, Niagara Falls, N.Y. deliver to Monsanto Co. at its Nitro, W.Va. plant a minimum total tetrachlorobenzene of 600,000 lbs. per month on a delivery basis of 100,000 lbs. every 5 days. This will allow Monsanto to operate its 2,4,5-T facility at maximum production rate.

Signature

Name of Company

Date

2) Because of the production cycle of 5 [illegible] days between receipt of Tetra Benzene to finished Orange product, Monsanto will not be able to deliver 125,000 gallons during the April 3 to May 3, 1967 period unless TCB is received at Nitro, W.Va at the rate described in (1) above starting March 30/31, 1967

FL-20 (1-4-65) USCOMM-DC [illegible]

SCHEDULE #

3783362

FORM GA-64 (12-4-61) — U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION

BDSA Case No. 28500-5M

Division: Chemicals & Allied Products

Received-Priorities Office

WORK SHEET FOR REQUEST FOR PRIORITIES ASSISTANCE

INSTRUCTIONS - This work sheet, forming an integral part of the case and of the official file, must be completed and signed by a Division before referral to the Priorities Office. If DX or Directive is involved, Blocks 1 through 7 must be filled in. If DO rating is involved, complete Blocks 6 and 7.

1. (a) Name of official of Supplier contacted: Mr. D. J. Miller

(b) Title: Supervisor, Organic Chemicals

(c) Method	(Check)	(d) Date	(e) Date
Telephone			
Telegraph			
Letter	X		
Personal			

2. What, specifically, is preventing or will prevent shipment(s) to Applicant by his required delivery date?

This letter cancels portion of a BDSA directive on Hooker.

3. Has Supplier in hand or in transit materials and/or components which can be used or diverted to complete Applicant's order, if so directed?

not applicable.

4. (a) What would be Supplier's earliest possible shipment date to Applicant

If DX is issued? _____

If Directive is issued? _____

(b) What important orders on Supplier's schedule would be delayed as result of such action, and to what extent?

5. If certain materials or components are needed to complete Applicant's order, and BDSA assistance will be needed to expedite their receipt, list them here with names and addresses of suppliers, purchase order numbers and dates, dollar values and shipment dates required in order to make shipment(s) to Applicant by date shown in 4.

MAR 25 1968

(signed) W. J. Zepp

3 hours

6. (a) Action recommended

Portion of directive on Hooker Chemical Corp. to ship TCB to Hercules, Inc., be cancelled.

(b) Reason(s)

The U.S. Government is allowing a 2 months' moratorium on deliveries of military defoliants to the Dept. of Defense. During the months of April and May 2,4,5-T producers will be allowed to make and sell 2,4,5-T to civilians.

7. CONCURRENCES

		Telephone Extension	Date
Division	(a) Analyst: Jane Lewis	X3910	3/22/68
	(b) Concurrence: W.R. Koster	Title: Division Director	Date: 3/22/68
	(c) Edward R. Killam	Director, Ofc. of Chemicals & Consumer Products	3 25 68
Priorities Office	Approved by: [illegible]	Title	Date: 3-25-68

USCOMM-DC 10702-P61

EXHIBIT 6

FORM CA-64 (12-4-61)

BUSINESS AND DEFENSE SERVICES ADMINISTRATION

WORK SHEET FOR REQUEST FOR PRIORITIES ASSISTANCE

Case No. 28500-5N 3/22/68 45

Division: Chemicals & Allied Product

Received-Priorities Office

INSTRUCTIONS - This work sheet, forming an integral part of the case and of the official file, must be completed and signed by a Division before referral to the Priorities Office. If DX or Directive is involved, Blocks 1 through 7 must be filled in. If DO rating is involved, complete Blocks 6 and 7.

1. (a) Name of official of Supplier contacted: Mr. Dan Miller

(b) Title: Supervisor, Organic Chemicals

(c) Method	(Check)	(d) Date	(e) Date
Telephone			
Telegraph			
Letter	X		
Personal			

2. What, specifically, is preventing or will prevent shipment(s) to Applicant by his required delivery date?

Hooker has used part of production (b) (3) (b) (4)
(b) (3) (b) (4)

3. Has Supplier in hand or in transit materials and/or components which can be used or diverted to complete Applicant's order, if so directed?

See reverse side.

4. (a) What would be Supplier's earliest possible shipment date to Applicant

If DX is issued? ____

If Directive is issued? ____

(b) What important orders on Supplier's schedule would be delayed as result of such action, and to what extent?

Hooker will undoubtedly plan to suppy some material t non-herbicide producer. Directive will assure materia to defoliant producer who has not completed Government contract.

5. If certain materials or components are needed to complete Applicant's order, and BDSA assistance will be needed to expedite their receipt, list them here with names and addresses of suppliers, purchase order numbers and dates, dollar values and shipment dates required in order to make shipment(s) to Applicant by date shown in 4.

(b)(3) (b) (4)

MAR 25 1968

(signed) W. J. Zepp

3 hours

0301158

6. (a) Action recommended

Hooker be directed to ship TCB on specific dates to producer of military defoliant.

(b) Reason(s)

The military defoliant producer has indicated that he can complete his Government contract by making reduced quantities of "Orange" in April and in May. This is acceptable to the DoD which has agreed that Monsanto can complete its Government contract in this way.

7. CONCURRENCES

Division	(a) Analyst: Jane Lewis	Telephone Extension: X3910	Date: 3/22/68
	(b) Concurrence: W.R. Koster	Title: Division Director	Date: 3/22/68
	(c) Edward R. Killam	Director, Ofc.of Chemicals & Consumer Products	
Priorities Office	Approved by: C. M. [illegible]	Title: A PO	Date: 3-25-68

USCOMM-DC 10702-P61

3. It is anticipated that Hooker will encounter no difficulty in supplying TCB at the reduced level. The directive is placed on Hooker to assure delivery of intermediate to Monsanto at the time the company has scheduled production of military defoliants.

3/2/68 47

WORK SHEET
FOR REQUEST FOR PRIORITIES ASSISTANCE

Division: Chemicals & Allied Products

Received-Priorities Office:

INSTRUCTIONS - This work sheet, forming an integral part of the case and of the official file, must be completed and signed by a Division before referral to the Priorities Office. If DX or Directive is involved, Blocks 1 through 7 must be filled in. If DO rating is involved, complete Blocks 6 and 7.

1. (a) Name of official of Supplier contacted: Mr. D. J. Miller

(b) Title: Supervisor, Organic Chemicals

(c) Method	(Check)	(d) Date	(e) Date
Telephone			
Telegraph			
Letter	X		
Personal			

2. What, specifically, is preventing or will prevent shipment(s) to Applicant by his required delivery date?

This letter cancels portions of two BDSA directives on Hooker.

3. Has Supplier in hand or in transit materials and/or components which can be used or diverted to complete Applicant's order, if so directed?

Not applicable

4. (a) What would be Supplier's earliest possible shipment date to Applicant

If DX is issued? _____

If Directive is issued? _____

(b) What important orders on Supplier's schedule would be delayed as result of such action, and to what extent?

5. If certain materials or components are needed to complete Applicant's order, and BDSA assistance will be needed to expedite their receipt, list them here with names and addresses of suppliers, purchase order numbers and dates, dollar values and shipment dates required in order to make shipment(s) to Applicant by date shown in 4.

(signed) W. J. Zopp

MAR 27 1968

3 hours

6. (a) Action recommended

Portion of two directives on Hooker Chemical Corporation to ship TCB to Monsanto Company be cancelled.

(b) Reason(s) The U.S. Government is allowing a 2 months moratorium on deliveries of military defoliants to the Department of Defense. During the months of April and May 2,4,5-T producers will be allowed to make and sell 2,4,5-T to civilians.

(See reverse)

7. CONCURRENCES

Division	(a) Analyst: Jane Lewis	Telephone Extension: X 3910	Date: 3/27/68
	(b) Concurrence: W. R. Koster	Title: Division Director	Date: 3/27/68
	(c) Edward R. Killam	Director, Ofc. of Chemicals & Consumer Products	3/27/68
Priorities Office	Approved by	Title	Date: 3-27-68

USCOMM-DC 10702-P1

6(b). Monsanto originally elected to produce (b)(3) (b)(4) (b)(3) (b)(4) during the two months moratorium of April and May 1968. BDSA was directing TCB shipments for the production of military defoliants only. Due to the intense pressure on Monsanto from 2,4,5-T customers, the company has reversed its decision and will produce (b)(3) (b)(4) (b)(3) (b)(4) The Department of Defense and BDSA have agreed to the change in deliveries of military defoliants.

MONSANTO

FROM : G. C. Kamenko - General Offices

DATE : February 21, 1967

SUBJECT : 58350 - 1,2,4,5 Tetrachlorobenzene (Hooker Chemical)

REFERENCE :

cc : J. S. Bush - Washington D.C.
D. E. Cayard
R. H. Brick - Nitro

TO : Mr. C. P. Zorsch

Mr. Richard Goldman, Supervisor for Tetrachlorobenzene Sales, of Hooker Chemical Company, called on February 17, 1967 and advised that Monsanto's schedule for the months of February and March has been revised from our normal four cars per month to three cars per month. This revision was based on production outages incurred at Hooker's plant at Niagara Falls, and allocation was based on a directive from the Government to Hooker Chemical Company.

Mr. Goldman further states that it looks like we will still be able to get four cars in April, four cars in May, and a good possibility of going up to six cars in June.

He also volunteered that he had learned all of Dow's capacity for 2,4,5 T had been placed against rated orders. He believes that Diamond and Hercules have 2,4,5 T expansions underway, which are expected to come on stream around mid-year. This was not definite information on Dick's part, but he felt it reasonably reliable.

Also, he mentioned that the Government was considering building a fully integrated Tetrachlorobenzene 2,4,5 T Plant, and that timing was approximately 18 months away. The Government would then permit domestic producers of 2,4,5 T to sell to their domestic accounts; and all of the Government T requirements would be furnished from the new Plant. If additional material would be required, it would then be furnished by the domestic producers.

Mr. Goldman further expects that Tetrachlorobenzene will continue to be sold against rated orders for a period of

EXHIBIT
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000679

06495

time following the end of the Vietnam hostilities. This would be for stockpiling purposes, plus other uses that the Government sees.

G. C. Kamenko

pb

05-1820-CV

05-1509-CV, 05-1693-CV, 05-1694-CV, 05-1695-CV, 05-1698-CV, 05-2450-CV

To be Argued by:
ANDREW L. FREY

United States Court of Appeals
for the Second Circuit

IN RE "AGENT ORANGE" PRODUCT LIABILITY LITIGATION

JOE ISAACSON AND PHYLLIS LISA ISAACSON

Plaintiffs-Appellants,

v.

DOW CHEMICAL COMPANY; MONSANTO COMPANY; HERCULES INC.; OCCIDENTAL CHEMICAL CORP.; ULTRAMAR DIAMOND SHAMROCK CORPORATION; MAXUS ENERGY CORP.; CHEMICAL LAND HOLDINGS, INC.; T-H AGRICULTURE & NUTRITION CO.; THOMPSON HAYWARD CHEMICAL CO.; HARCROS CHEMICALS, INC.; UNIROYAL, INC.; C.D.U. HOLDING, INC.; AND UNIROYAL CHEMICAL CO., INC.

Defendants-Appellees.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW YORK

PROOF BRIEF FOR DEFENDANTS-APPELLEES ON REMOVAL

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DEFENDANTS-APPELLEES' RULE 26.1
CORPORATE DISCLOSURE STATEMENT

In accordance with Rule 26.1 of the Federal Rules of Appellate Procedure, Defendants-Appellees hereby state:

Monsanto Company. Monsanto Company has no publicly owned parent corporation, and no publicly held corporation owns more than 10 percent of Monsanto's stock.

The Dow Chemical Company. The Dow Chemical Company has no parent corporations and no publicly held company owns 10 percent or more of its stock.

Occidental Chemical Corporation. Occidental Chemical Corporation, the successor by merger to Diamond Shamrock Chemicals Company (which was known prior to September 1, 1983 as Diamond Shamrock Corporation), is an indirect, wholly-owned subsidiary of Occidental Petroleum Corporation, a publicly held company.

Valero Corporation. Valero Corporation, the successor by merger to Ultramar Diamond Shamrock Corporation, has no parent corporation. Barclays Global Investors, N.A. owns more than 10% of its stock.

Maxus Energy Corporation. Maxus Energy Corporation is an indirect, wholly-owned subsidiary of YPF S.A. ("YPF"). Approximately 99 percent of YPF's stock is owned by Repsol YPF S.A. ("Repsol YPF"). Repsol YPF is

publicly held, and the shares of YPF stock not owned by Repsol YPF are also publicly held.

Tierra Solutions, Inc. Tierra Solutions, Inc., formerly known as Chemical Land Holdings, Inc., is an indirect, wholly-owned subsidiary of YPF S.A. ("YPF"). Approximately 99% of YPF's stock is owned by Repsol YPF S.A. ("Repsol YPF"). Repsol YPF is publicly held, and the shares of YPF stock not owned by Repsol YPF are also publicly held.

Hercules Incorporated. Hercules Incorporated has no parent corporations and no publicly held company owns 10 percent or more of its stock.

Uniroyal, Inc. Uniroyal, Inc. is a dissolved corporation.

C.D.U. Holdings, Inc. C.D.U. Holdings, Inc. is a dissolved corporation.

Uniroyal Chemical Co. Uniroyal Chemical Corp. is wholly-owned by the Crompton Corporation, a publicly held company.

TH Agriculture & Nutrition Company, Inc.; Thompson-Hayward Chemical Co.; and Harcros Chemical, Inc. T H Agriculture & Nutrition Company, Inc. (now know as T H Agriculture & Nutrition L.L.C.) is a wholly-owned subsidiary of Philips Electronics North America Corporation, formerly known as North American Philips Corporation. Philips Electronics North America Corporation is an indirect wholly-owned subsidiary of Koninklijke Philips Electronic N.V., a publicly held corporation based in the Netherlands. Thompson-

Hayward Chemical Co. was a former subsidiary of North American Philips Corp. which no longer exists. These assets of Thompson Hayward Chemical Co. were purchased by Harcros Chemical Inc., which is a completely separate entity from Philips Electronics North America Corporation.

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PRELIMINARY STATEMENT

In the midst of the Vietnam War, the United States military adopted a carefully considered strategy of targeted aerial herbicide spraying to prevent enemy forces from concealing themselves in the jungle and ambushing American, South Vietnamese, and other allied soldiers. That strategy is credited with saving the lives of thousands of allied troops. To ensure that military personnel would not be endangered by a shortage of the specific herbicides that had been researched, designed, and developed by the government, the United States invoked the Defense Production Act and compelled cooperation from the chemical manufacturers who are named as defendants in these actions.

Having removed these suits to federal court, and having won summary judgment below on the basis of the government contractor defense, the defendants now ask this Court to reaffirm their right to defend against the plaintiffs' claims in a federal forum, pursuant to a removal statute that has been applied and broadened over nearly two centuries. The purpose of the federal officer removal statute, 28 U.S.C. § 1442(a)(1), is to prevent potentially hostile state courts from thwarting federal law and impeding the operations of the federal government. Section 1442 does so by allowing a person who is sued for actions taken on behalf of the federal government to remove the case to a federal forum.

ISSUE PRESENTED

Whether the defendants, who manufactured the herbicide Agent Orange, pursuant to precise government specifications, for use by the United States Government during the Vietnam War, were entitled to remove this action to federal court pursuant to 28 U.S.C. § 1442(a)(1) as persons acting under federal officers and claiming a federal defense.

STATEMENT OF THE CASE

The present defendants entered into a global class settlement in 1984 that covered all Agent Orange-related claims of military veterans and their families. The suits addressed in this brief were brought in various state courts, beginning in 1998. Defendants removed the cases to federal court, and the Panel on Multi-District Litigation transferred them, as well as the federal cases that are also currently on appeal, to the Eastern District of New York, where they were consolidated before the Hon. Jack B. Weinstein. Judge Weinstein ruled that the All Writs Act established federal jurisdiction in one of those cases (*Isaacson*) and then dismissed it and *Stephenson* on the ground that they presented an impermissible collateral attack on the 1984 settlement.

On appeal, this Court affirmed the finding of federal jurisdiction but reversed the dismissal, holding that veterans whose injuries did not manifest themselves until after the settlement fund was exhausted in 1994 had not been

adequately represented by class counsel in the original settlement and therefore were not bound by it. *Stephenson* v. *Dow Chem. Co.*, 273 F.3d 249, 256-57, 260-61 (2d Cir. 2001). An evenly divided Supreme Court affirmed this Court's ruling as to dismissal of *Stephenson* but vacated and remanded the *Isaacson* decision as to jurisdiction for reconsideration in light of *Syngenta Crop Protection, Inc.* v. *Henson*, 537 U.S. 28 (2002). *Dow Chem. Co.* v. *Stephenson*, 539 U.S. 111 (2003) (per curiam). This Court then concluded that *Syngenta* barred All Writs Act jurisdiction in *Isaacson*; it remanded for a determination of whether alternative bases for jurisdiction were present. *Stephenson* v. *Dow Chem. Co.*, 346 F.3d 19 (2d Cir. 2003).

In February 2004, Judge Weinstein denied plaintiff Isaacson's motion to remand, finding federal jurisdiction under the federal officer removal statute, 28 U.S.C. § 1442(a)(1). *Isaacson* v. *Dow Chem. Co.*, 304 F. Supp. 2d 442 (E.D.N.Y. 2004). On March 2, 2005, Judge Weinstein issued an order denying remand of all other cases in this appeal that had been removed from state court. This brief addresses the challenges of each of those plaintiffs to the denial of remand. Because federal officer removal focuses on the relationship between the defendant and the federal government, there are no material differences of fact among those cases that pertain to the propriety of removal.

STATEMENT OF FACTS

The district court summarized its key findings of fact supporting removal at 304 F. Supp. 2d at 449-50. In addition, it incorporated by reference its extensive exposition of undisputed facts for purposes of the government contractor defense as findings of fact with respect to removal jurisdiction. 304 F. Supp. 2d at 445. The following statement sets forth the key findings of fact made by Judge Weinstein and demonstrates that those findings, far from being clearly erroneous (see p. 15-16 *infra*), are fully supported by the undisputed record. We also incorporate by reference the statement of facts in defendants' brief in the *Stephenson et al.* appeals (the "GCD Brief").

A. The Government "Invented" Agent Orange.

The district court made the following findings of fact regarding the origins of Agent Orange.

> The herbicidal properties of 2,4-D and 2,4,5-T as a munition were discovered in research conducted by the United States military during World War II. During the 1950s and 1960s, the United States armed forces developed these compounds as weapons of war, conducting extensive testing and experimentation involving applications of high concentrations of these materials at heavy rates to defoliate large areas indiscriminately as rapidly as possible.

Isaacson v. *Dow Chem. Co.*, 304 F. Supp. 2d 404, 426 (E.D.N.Y. 2004).

> After the testing of many different herbicides, the military concluded that a mixture of the butyl esters of 2,4-D and 2,4,5-T was most effective for military defoliation purposes. Federal officers determined through government specifications that the "formulation"

> for Agent Orange would be a 50/50 mix of the n-butyl esters of 2,4-D and 2,4,5-T. The government determined that "extremely high dose rates" of these undiluted herbicides were required for effective military use.
>
> ***
>
> The herbicidal properties of 2,4-D and 2,4,5-T were explored in research conducted by the United States military during World War II. *** As the Court of Appeals for the Fifth Circuit concluded in *Winters* and *Miller*, the Agent Orange supplied to the government was not a ready-to-order, preexisting or off-the-shelf chemical mixture.

304 F. Supp. 2d at 449-50.

All of those findings are amply supported by the record. Agent Orange had its origins in research instituted by the Chemical Warfare Service during World War II at Camp Detrick, Maryland to develop anti-plant agents. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 1 at 7. By 1945, federal officers at Camp Detrick had synthesized and screened about 1,100 substances. They determined that two had "outstanding herbicidal properties": 2,4-dichlorophenoxyacetic acid ("2,4-D") and 2,4,5-trichlorophenoxyacetic acid ("2,4,5-T"). *Id.* at 7. The discovery was kept classified during the war, but government scientists at Camp Detrick published their findings in 1946. *Ibid.*

Thereafter, chemical companies began selling diluted forms of 2,4-D and 2,4,5-T as commercial herbicides, while government scientists at Camp Detrick continued to research the efficacy and means of dissemination of various forms of those chemicals with the aim of developing a militarily effective defoliant. *Id.*;

11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 2. Military and civilian herbicides were designed with different goals in mind. While commercial researchers focused on developing herbicides that would kill weeds and brush without harming nearby crops or other vegetation, military researchers wanted chemicals that could defoliate a wide range of plant species to eliminate visual cover for hostile forces.

By 1951, scientists at Camp Detrick had determined that the *n*-butyl esters of 2,4-D and 2,4,5-T were most effective for military purposes. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 1 at 8. Two characteristics that stood out were their effectiveness in "canopy penetration in the dense jungles" (*id.*, Ex. 2 at 18) and their rapid penetration of the wax covering of leaves, which ensured that the chemicals would not wash off in the rain. *Id.* at 18, 22.

When the United States became increasingly involved in the Vietnam conflict in the early 1960s, Dr. James Brown at Fort Detrick was ordered to conduct initial testing of defoliants. He sought to obtain the "chemicals of choice" – *n*-butyl 2,4-D and *n*-butyl 2,4,5-T – but these "could not be obtained on the open market." 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 1 at 9. Testing proceeded with "less active commercial substitutes." *Ibid.* In addition, the commercial spray equipment used was judged "inadequate" because it could not achieve the higher application rates required in military operations. *Ibid.* Dr.

Brown concluded that the testing "demonstrated that, with suitable spray systems and the more potent chemicals of choice (*n*-butyl 2,4-D and 2,4,5-T), militarily significant defoliation could be accomplished in Vietnam." *Ibid.*

The military continued research and testing to identify more effective defoliants and herbicides for use in Vietnam. From August 1961 to June 1963, military scientists at Fort Detrick screened 1,410 additional compounds. The two-stage screening experiment ultimately identified 37 active defoliants and 29 active herbicides. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 5 at 3. Ultimately, however, *n*-butyl 2,4-D and 2,4,5-T, remained the "agents of choice."

Other military scientists conducted additional testing in Thailand in 1964 and 1965 "to determine the effectiveness of aerial applications of Purple, Orange, and other candidate chemical agents in defoliation of upland jungle vegetation representative of Southeast Asia." 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 6 at 3. The resulting data were used for "comparative evaluation of defoliant chemicals in relation to rate, volume, season of application, canopy penetration, and vegetation response." *Ibid.* Agents Orange, Purple, and Blue were found to be the most effective, and the high application rates of Agent Orange were deemed best to achieve effective, efficient, and long-lasting defoliation meeting military objectives. A formulation similar to what became known as Agent White was identified as promising but required further testing. None of the other

candidate chemical agents proved superior to Agent Orange, which was composed of a 50/50 mix of *n*-butyl 2,4-D and 2,4,5-T.

The results of this military testing decisively shaped military herbicide strategy and tactics for the duration of the herbicide program in Vietnam. The military specifications prepared for Agent Orange required the *n*-butyl esters of 2,4-D and 2,4,5-T in undiluted form, without inert ingredients. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 7 (1/29/1992 Gordon Aff.) ¶6; *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. 740, 848 (E.D.N.Y. 1984) ("the government 'invented' Agent Orange"), aff'd, 818 F.2d 145 (2d Cir. 1987). In contrast, defendants' commercial products contained 2,4-D and 2,4,5-T diluted by substantial amounts of inert ingredients. See, *e.g.*, 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 7 (1/29/1992 Gordon Aff.) ¶4. See also GCD Brief at 112-13.

B. Federal Officers Required Defendants To Supply Agent Orange Pursuant To Military Specifications.

The district court made the following findings of fact regarding the extent to which the government directed the manufacture of Agent Orange:

> Commencing in 1961, defendants produced and delivered Agent Orange to the United States pursuant to numerous contracts entered into with the Defense General Supply Center, the Defense Fuel Supply Center, the United States Army or the United States Air Force. The contracts set forth or incorporated by reference detailed specifications for the herbicide. Those specifications were promulgated by the government. A government directive issued

> pursuant to Section 101 of the Defense Production Act of 1950 commandeered the United States industry's entire capacity to manufacture 2,4,5-T, ordering defendants to accelerate the delivery of Agent Orange. See, *e.g.*, *Hercules Inc.* v. *United States*, 516 U.S. 417, 419 (1996) ("The military prescribed the formula and detailed specifications for manufacture.").

304 F. Supp. 2d at 449. The government also ordered that the entire domestic supply of tetrachlorobenzene ("TCB"), an essential precursor to 2,4,5-T, be directed to Agent Orange production. Judge Weinstein concluded that, as a result,

> even assuming arguendo that Diamond had the opportunity under the Defense Production Act to refuse to accept the Directive, as a practical matter such an opportunity would have been meaningless: Diamond would have been forced to close its Plant because the United States controlled all access to the starting ingredient needed for production of any 2,4,5-T.

304 F. Supp. 2d at 425.

The record amply supports these findings.

1. The Defense Production Act of 1950

The Defense Production Act of 1950 granted the President the power "to require acceptance and performance" of "contracts or orders" deemed "necessary or appropriate to promote the national defense." 50 U.S.C.A. App. §§ 2061 et seq., 2071(a). The President could "require acceptance and performance of such contracts or orders *** by any person he finds to be capable of their performance." *Ibid.* This grant of power was recognized as "a sweeping delegation of power" that gave the President "powers broader than those granted in World War II." Note,

The Defense Production Act: Choice as to Allocations, 51 COLUM. L. REV. 350 (1951).

2. Business and Defense Services Administration Regulations

The day after the Defense Production Act became law, the President delegated the bulk of his authority under the Act to the Secretary of Commerce. Exec. Order No. 10161, 15 Fed. Reg. 6105 (Sept. 9, 1950). The Business and Defense Services Administration ("BDSA") exercised the powers of the Secretary of Commerce from 1953 through 1970. 18 Fed. Reg. 6503 (Oct. 10, 1953); Dept. Org. Order 40-1A (Sept. 15, 1970).

BDSA Regulation 2, Basic Rules of the Priorities System, established the system of rated orders under which the Agent Orange contracts were subsequently issued. 32A C.F.R. Ch. VI § 10 (BDSA 1967) (11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 10). The law required that "[e]very order bearing a rating ***must be accepted and filled*** regardless of existing contracts and orders except as provided in this section ***." BDSA Reg. 2 § 10 (emphasis added). BSDA regulations also allowed the government to issue "mandatory directives" that would supersede even rated orders. BDSA Reg. 2 §16, Ex. 10 ("Section 16"). Section 16 provides: "Every person shall comply with each mandatory order and directive issued to him by [BDSA]. Mandatory orders and directives issued by [BDSA] take precedence over rated orders previously or subsequently received,

unless a contrary instruction appears in the mandatory order or directive." In contrast to rated orders, which often were used to allow a military contractor to demand precedence over their civilian counterparts when dealing with third parties, military directives simply ordered a specific plant to deliver a specific product at a particular time. *Eastern Airlines, Inc.* v. *McDonnell Douglas Corp.*, 532 F.2d 957, 980-89 (5th Cir. 1976).

Failure to comply with a rated order or directive would have resulted in serious consequences. Section 27 provides that violation of BDSA Reg. 2 is a crime punishable by fine or imprisonment. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 10 (BDSA Reg. 2 § 27 ("Section 27")). Section 27 further provides that "an injunction and order may be obtained *** enforcing compliance" with any provision of Reg. 2, including both rated orders and directives. These provisions continued in force throughout the period during which defendants supplied Agent Orange.

3. The Government Required The Production Of Agent Orange.

Virtually all of the defendants' contracts with the government to produce Agent Orange were rated. See 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 11 at ¶3 (Dow); Ex. 12 ¶8-9 (Diamond); Ex. 13 at Ex. A (Hercules); Ex. 14 ¶7-9 (Monsanto). Because "[e]very order bearing a rating must be accepted and filled," BDSA Reg. 2 § 10, the rated orders required defendants to accept the

contracts and produce Agent Orange for the government under penalty of law. The fact that there was competitive bidding on a few early, non-rated contracts has no bearing on either the government's powers or defendants' obligations in connection with the rated orders.

When a shortage of Agent Orange developed in late 1966 despite the use of rated orders, the government initiated even stronger measures to meet anticipated military requirements. See 10/27/2004 Krohley Aff., Ex. 3 at 133. On January 26, 1967, Secretary of Agriculture Orville Freeman wrote Secretary of Defense Robert McNamara expressing concern for reduced crop yields and hardships for farmers: increasing military use in Vietnam was depleting herbicide stocks for domestic agricultural use. Secretary Freeman suggested allocating existing herbicide stocks between civilian and military uses. McNamara disagreed and instead asked the White House "to allocate all commercial production capacity for agent orange and its critical components to military use." *Ibid.* In March 1967, the BDSA issued mandatory directives that effectively seized the entire domestic production capacity for 2,4,5-T as raw material for production of Agent Orange. A Commerce Department official informed Edwin Upton of Thompson-Hayward of the exceptional nature of this action: "this was the first time the entire production of a chemical had been taken by the military. The matter was discussed and resolved finally by an executive order of the White House." 1/22/2004 Defs.' Supp. Reply

Br. in Opp. to Remand, Ex. 3 at 3. The government told Upton that his company "would be required by law to divert [its] entire production *** to the military," and that "Lt. Col. Hinson would negotiate a contract with Thompson-Hayward." *Ibid.*

In the spring of 1967, each Agent Orange manufacturer received a directive requiring that its entire plant capacity be used for production of Agent Orange. This directive ensured that any spare capacity that might remain after filling each month's contract quantity would also be devoted to military production. See, *e.g.*, 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 17. BDSA Directive 28500-1, issued to Dow, specifically states that "pursuant to Section 101 of the Defense Production Act of 1950," "you are hereby directed to accelerate the delivery of your existing DO rated orders for the defoliant 'Orange' to a monthly rate of 93,000 gallons beginning April 3, 1967." 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 17. The directive further stated that Dow's "capacity for the production of 'Orange'" was 93,000 gallons per month as of April 3, 1967. *Ibid.* Dow was thus directed to deliver Agent Orange to the government at a rate equal to its entire production capacity. Dow immediately froze existing stocks of 2,4,5-T herbicides. Management informed the sales force: "You now have approval to tell salesmen and customers the cause of this action which is military direct orders for entire US 245-T capacity." 1/22/2004 Defs.' Supp. Reply Br. in Opp. to Remand, Ex. 4. Diamond likewise received orders representing its full 2,4,5-T production

capacity, both before and after the expansion of its Newark plant. 11/10/2003 Gordon Aff., Exs. 6, 11-13. Hercules as well was required to sell the government its entire production (10/27/2004 Krohley Aff. at 48 (citing 4/20/1983 Frawley Aff. ¶¶3, 6)), as was Monsanto. 10/28/04 Sabetta Aff., Ex. 1 (12/10/91 McCarville Aff.) ¶¶9-11 & Exs. 4 and 5 (to McCarville Aff.).

In sum, the tentative conclusion of plaintiffs' expert Ralph Nash that shipments of Agent Orange after March 24, 1967 "appear to have been entered into as a result of normal procurement practices" (PA6989), is thoroughly refuted by the record.

C. Federal Officers Made Fully-Informed, Independent Decisions Regarding Dioxin And The Use Of Agent Orange In Vietnam.

The district court made the following findings of fact with regard to the government's informed control over the way in which Agent Orange was used in Vietnam:

> Here, the government ordered specifications that differed from defendants' commercial applications. In addition, the method of warning and application was completely in the government's hands.
>
> The government's full knowledge of the dioxin "problem" inherent in the production of Agent Orange is evidence that the federal officials maintained control over the acts on which the litigation is based.

304 F. Supp. 2d at 450.

> The government designed, controlled, and supervised the production of Agent Orange as a product vital to the prosecution of the war in Vietnam.

Id. at 449. Once again, Judge Weinstein's findings are fully supported by the record.

In 1961, President Kennedy approved a joint recommendation of the Departments of State and Defense to initiate defoliation in Vietnam. See *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. at 775; 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 15 at 9-22, 66-67. Decisions regarding the use of Agent Orange were made by Secretary of Defense McNamara, General Westmoreland, and members of the President's Science Advisory Committee. See *In re "Agent Orange" Prod. Liab. Litig.*, 565 F. Supp. 1263, 1266-68 (E.D.N.Y. 1983); *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. at 775-77, 795-99; 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 15 at 103-104, 133-36, 145-48. The decision to cease use of Agent Orange was also made at the highest levels of the Defense Department. 11/10/2003 Defs.' Supp. Br. in Opp. to Remand, Ex. 15 at 166-67.

STATEMENT OF THE STANDARD OF REVIEW

The district court's denial of a motion to remand is reviewed *de novo*. *Broder* v. *Cablevision Sys. Corp.*, 418 F.3d 187, 193-94 (2d Cir. 2005). The court's findings of fact as to subject matter jurisdiction, however, are reviewed only for clear error. See *Gualandi* v. *Adams*, 385 F.3d 236, 240 (2d Cir. 2004); *Philips* v. *Saratoga Harness Racing, Inc.*, 240 F.3d 174, 177 (2d Cir. 2001)

("When reviewing a district court's determination of its subject matter jurisdiction, we review factual findings for clear error and legal conclusions de novo.") (citation omitted).

SUMMARY OF ARGUMENT

The federal removal statute, 28 U.S.C. § 1442(a)(1), grants a federal forum for actions brought against "any person acting under [a federal] officer *** for any act under color of such office." The statute is construed broadly, and this case squarely implicates its purpose of guaranteeing a federal forum in which to defend acts that were taken at the federal government's behest: the defendants manufactured Agent Orange at the direction of the United States government for its use in the Vietnam War, and one of the chief arguments against the imposition of tort liability for that conduct is the government contractor defense. Accordingly, every federal judge to have considered the issue has held that claims arising from the manufacture and sale of Agent Orange can be removed to federal court.

Faced with the statute's clear language and the unanimous view of the courts that federal officer removal is applicable in this context, the plaintiffs present a series of creative, but utterly baseless, arguments. First, they contend that a corporation is not a "person" within the meaning of Section 1442(a)(1). But the proposition that the term "person" includes corporations as well as natural persons,

both as a general matter and in this particular context, is so well-established as to be beyond serious dispute. Moreover, the government frequently depends on corporate contractors to get its business done, and it would be illogical and wholly at odds with the statutory purpose to confine Section 1442(a)(1) removal to individuals.

Second, plaintiffs argue that the defendants were not "acting under" a federal officer when they produced Agent Orange. That contention is likewise untenable. Not only did the government specify the formula, packaging, and labeling of the Agent Orange supplied by the defendants, and not only was this formulation uniquely designed for use by the United States military and without non-governmental use, but the defendants produced Agent Orange pursuant to mandatory government orders, enforceable by criminal penalties, and the government secured raw materials for the manufacturers' use.

Finally, the military officers who directed the production of Agent Orange for use in Vietnam plainly were acting under color of federal law, and the government contractor defense – which was endorsed by the Supreme Court as a matter of federal common law – provides ample grounds for Article III jurisdiction.

ARGUMENT

THE DISTRICT COURT CORRECTLY HELD THAT REMOVAL UNDER SECTION 1442 IS APPROPRIATE IN THIS CASE.

A. Section 1442(a)(1) Is Interpreted Broadly In Light Of Its Protective Purposes.

Section 1442(a)(1) has three elements: the statute permits removal of suits against "[1] any person [2] acting under [a federal] officer *** [3] for any act under color of such office." The statute is phrased "in sweeping terms." RICHARD H. FALLON, JR. ET AL., HART & WESCHLER'S THE FEDERAL COURTS AND THE FEDERAL SYSTEM 908 (5th ed. 2003). Both the language and the legislative history mandate a broad construction.

In enacting the federal officer removal provision, Congress was concerned with "protect[ing] federal officers from interference by hostile state courts," especially in matters of national defense. *Willingham* v. *Morgan*, 395 U.S. 402, 405-406 (1969). As this Court has explained of the predecessor to Section 1442(a)(1), removal in such cases serves a compelling federal interest:

> Where a federal officer asserts a privilege for acts done under color of his office[,] the defense is based upon a federal right, the purpose of which is to prevent federal employees from being unduly harassed by 'vindictive or ill founded damage suits brought on account of action taken in the exercise of their official responsibilities.' Consequently, the federal government has a special interest in such matters which justifies the granting of removal jurisdiction to the federal courts in such cases.

Poss v. *Lieberman*, 299 F.2d 358, 359 (2d Cir. 1962) (citing *Barr* v. *Matteo*, 360 U.S. 564, 564-65 (1959)).

Given the significance of this interest, the Supreme Court consistently has "rejected a 'narrow, grudging interpretation of the statute.'" *Jefferson County* v. *Acker*, 527 U.S. 423, 431 (1999) (quoting *Willingham*, 395 U.S. at 407). See also *Arizona* v. *Manypenny*, 451 U.S. 232, 242 (1981); *Colorado* v. *Symes*, 286 U.S. 510, 517 (1932).

Thus, this Court has held that a single defendant may remove under § 1442 even if other defendants object, contrary to usual removal practice, because the strong policy considerations underlying § 1442 "require a construction in favor of removal." *Bradford* v. *Harding*, 284 F.2d 310 (2d Cir. 1960). The Court explained:

> [1442 removal] rests upon far stronger considerations of policy [than removal under Section 1441]. Section 1441 relates to the rights of individuals. Section 1442, although dealing with individuals, vindicates also the interests of government itself; upon the principle that it embodies "may depend the possibility of the general government's preserving its own existence." *State of Tennessee* v. *Davis*, 1880, 100 U.S. 257, 262.

284 F.2d 307, 309-10. See also *Louisiana* v. *Sparks*, 978 F.2d 226, 232 (5th Cir. 1992); WRIGHT, MILLER & COOPER, FEDERAL PRACTICE AND PROCEDURE:

JURISDICTION 3d § 3727 (1998).[1] With this interpretive principle in mind, we review the elements of Section 1442(a)(1) in turn.

B. Defendants Are "Persons" Within The Meaning Of Section 1442(a)(1).

1. The Vast Majority of Federal Courts Agree that the Word "Person" in Section 1442(a)(1) Includes Corporations.

Plaintiff Isaacson halfheartedly suggests, and his amicus Public Citizen argues (Pub. Cit. Br. 6-11) that because the defendants are corporations, they may not avail themselves of Section 1442(a)(1) removal.[2] But the federal courts are virtually unanimous in holding that corporations are "persons" within the meaning of the statute. See, *e.g.*, *Winters* v. *Diamond Shamrock Chem. Co.*, 149 F.3d 387, 398 (5th Cir. 1998) ("We have previously held that corporate entities qualify as 'persons' under § 1442(a)(1)."); *Ryan* v. *Dow Chem. Co.*, 781 F. Supp. 934, 946-47 (E.D.N.Y. 1992); see also WRIGHT, MILLER & COOPER, FEDERAL PRACTICE AND

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[1] The broad construction of § 1442 stands in striking contrast to the restrictive reading of 28 U.S.C. § 1441, the general removal statute. See *Moreland* v. *Van Buren GMC*, 93 F. Supp. 2d 346, 350 & n.1 (E.D.N.Y. 1999); *Sun Buick, Inc.* v. *Saab Cars USA, Inc.*, 26 F.3d 1259, 1262 (3d Cir. 1994).

[2] All Isaacson says on this point, without elaboration, is that it is "more persuasive and consistent with Congressional intent" to read "person" to mean "natural person." Isaacson Br. 25.

PROCEDURE: JURISDICTION 3D §3727.[3] This point is so uncontroversial that in many cases the courts of appeals, including this one, have upheld removals by corporations under Section 1442(a)(1) without even questioning whether they were "persons" within the meaning of the statute. See, *e.g.*, *Pani* v. *Empire Blue Cross Blue Shield*, 152 F.3d 67, 70 (2d Cir. 1998); *Miller* v. *Diamond Shamrock Co.*, 275 F.3d 414, 417 (5th Cir. 2001). Amicus Public Citizen's argument (Br. 6-11) that "corporations *** are not 'persons' qualified to invoke the [removal] statute," simply ignores the overwhelming weight of authority on this question.[4]

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[3] Other cases to the same effect include *Guckin* v. *Nagle*, 259 F. Supp. 2d 406 (E.D. Pa. 2003); *Madden* v. *Able Supply*, 205 F. Supp. 2d 695 (D. Tex. 2002); *Thompson* v. *Comm. Ins. Co.*, 1999 U.S. Dist. LEXIS 21725 (S.D. Ohio 1999); *Reed* v. *Fina*, 995 F. Supp. 705 (E.D. Tex. 1998); *Good* v. *Armstrong*, 914 F. Supp. 1125, 1127-28 (E.D. Pa. 1996); *Jones* v. *Three Rivers Elec. Coop.*, 166 F.R.D. 413 (E.D. Mo. 1996); *Crocker* v. *Borden, Inc.*, 852 F. Supp. 1322, 1325 (E.D. La. 1994); *Guillory* v. *Ree's Contract Serv., Inc.*, 872 F. Supp. 344 (D. Miss. 1994); *Akin* v. *Big Three Indus., Inc.*, 851 F. Supp. 819 (E.D. Tex. 1994); *Pack* v. *AC&S, Inc.*, 838 F. Supp. 1099, 1102-1103 (D. Md. 1993); *Bahrs* v. *Hughes Aircraft Co.*, 795 F. Supp. 140 (D. Ariz. 1992); *Group Health, Inc.* v. *Blue Cross Assoc.*, 587 F. Supp. 887, 890 (S.D.N.Y. 1984).

[4] Public Citizen identifies a single district court case, *Krangel* v. *Crown*, 791 F. Supp. 1436 (S.D. Cal. 1992), as support for its assertion that corporations may not remove under § 1442(a)(1). *Krangel* is an outlier that has been expressly rejected by a host of other courts – including other district courts within the Ninth Circuit. See *Virden* v. *Altria Group, Inc.*, 304 F. Supp. 2d 832, 844 (N.D. W.Va. 2004) ("The majority of courts construing the removal statute, however, have disagreed with the holding in the *Krangel* case and have applied the federal officer removal statute to corporations."); *Arness* v. *Boeing N. Am., Inc.*, 997 F. Supp. (cont'd)

2. The Text And Relevant Statutory Policy Clearly Call For Construing "Person" to Include Corporations.

The nearly unanimous consensus that corporations are eligible to seek removal under Section 1442(a)(1) is compelled by both the statutory text and the congressional policy. 1 U.S.C. § 1 provides that, "[i]n determining the meaning of any Act of Congress, unless the context indicates otherwise *** the word[] 'person' *** include[s] corporations *** as well as individuals." See also *Jund* v. *Town of Hempstead*, 941 F.2d 1271, 1284 (2d Cir. 1991); *Church of Scientology* v. *United States Dept. of Justice*, 612 F.2d 417, 425 (9th Cir. 1979). The proponent of a contrary interpretation must overcome the strong presumption that Congress itself has established. There is not even a colorable basis for claiming that the context of Section 1442(a) "indicates otherwise."

In fact, precisely the opposite is the case. As Judge Weinstein recognized, "[p]rotection of federal government operations in today's organizational climate where so much of our economy and government outsourcing depends upon corporations" requires that they receive the same removal rights as individuals. *Isaacson*, 304 F. Supp. 2d at 447. See also *Ryan*, 781 F. Supp. at 946; *Ruffin* v.

(… cont'd)

1268, 1272 (C.D. Cal. 1998); WRIGHT, MILLER & COOPER, FEDERAL PRACTICE AND PROCEDURE: JURISDICTION 3D § 3727 n. 30.

Armco Steel Corp., 959 F. Supp. 770, 773 (S.D. Tex. 1997). These policy concerns are nowhere more salient than in the context of military contracting. See *Winters*, 149 F.3d at 398.[5] The government's own planned production of Agent Orange at the proposed Weldon Spring facility (see Stanwick-Hay Tr.[6] 39-48) would have been protected by sovereign immunity, and a suit brought directly against a government officer in connection with such production would have been removable under Section 1442(a)(1). The government's election to rely instead on corporate contractors does not diminish the policy concerns that animate the removal statute: suits against contractors and federal employees "implicate[] the same interest in getting the Government's work done." *Boyle* v. *United Techs. Corp.*, 487 U.S. 500, 505 (1988).

In addition, as this Court has recognized, corporations are entitled as a matter of federal common law to official immunity under the same conditions that apply to natural persons. *Pani*, 152 F.3d at 72, 74. And "one of the most important reasons for removal is to have the validity of the defense of official

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[5] See also Comment, *The Government Contract Defense After* Boyle v. United Technologies Corporation, 41 BAYLOR L. REV. 291, 310 (1989) (noting that after the Agent Orange settlement Eli Lilly and Dow refused to sell herbicides to spray coca plants in Colombia and Peru "unless indemnified by the government against the huge product liability risks") (citing contemporary news sources).

[6] Unless otherwise noted, citations to deposition transcripts appear in the Appendix to the 10/27/2004 Affidavit of William A. Krohley.

immunity tried in a federal court." *Willingham*, 395 U.S. at 406-407. This policy would be wholly undermined in a substantial body of significant cases if amicus were correct and corporations asserting official immunity were nonetheless barred per se from removing their cases to federal court.

3. *International Primate* Is Inapposite.

Despite the straightforward reasoning supporting this overwhelming weight of authority on the point, Public Citizen claims (Br. 8-11) to find support in *International Primate Protection League* v. *Admins. of Tulane Educ. Fund*, 500 U.S. 72 (1991). The prior version of Section 1442(a)(1) at issue in that case permitted removal by "[a]ny officer of the United States or any agency thereof, or person acting under him." The question in *International Primate* was whether "any agency" was an object of "officer of" or constituted a freestanding grant of removal authority to the agency itself. The Supreme Court adopted the former interpretation. 500 U.S. at 87. In 1996, in reaction to *International Primate*, Congress amended the statute so that it extended the right of removal to "[t]he United States or any agency thereof or any officer (or any person acting under that officer) of the United States or of any agency thereof" (see Pub. L. No. 104-317, 110 Stat. 3847); it thereby gave agencies an express right to remove. Looking to this history, Public Citizen asserts that it would be "incongruous, to say the least," if corporations were covered by the pre-amendment version of Section 1442, while

federal agencies were not. Br. at 10. It further argues that the contrast between the 1996 amendment's specificity as to agencies and its silence as to corporations implies an intent to exclude the latter. *Ibid*.

These arguments, clever though they may be, rest on a misreading of *International Primate* and disregard the controlling statutory text. Nothing in *International Primate* suggests that removal is inherently more important for agencies than for corporations. To the contrary, the Court in *International Primate* began with the proposition that, precisely ***because*** federal agencies are so closely tied to the government, the "determination of an agency's immunity *** was sufficiently straightforward that a state court, even if hostile to the federal interest, would be unlikely to disregard the law. Thus, agencies would not need the protection of federal removal." 500 U.S. at 85. The same cannot, of course, be said of a corporation that acts at the federal government's direction but is not itself a component of the government.[7]

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[7] The Court also pointed out that the reading urged by the defendant agency would have required that "him" (in "acting under him") have as its antecedent "officer *** or agency," and that the phrase "that limits exercise of the removal power to suits in which the federal defendant is charged for 'any act under color of such office' reads very awkwardly if the prior clauses refer not only to persons but to agencies." *Id.* at 80. And it noted the "presumption against designating the sovereign with the word 'person.'" See *Int'l Primate*, 500 U.S. at 84. All of these problems are unique to agency removal and have no application to corporations. (cont'd)

Public Citizen's related contention (Br. 7-8) that "person acting under" is intended to cover only natural persons who do not qualify as "officers of the United States" is similarly strained. Given the interpretive presumption of 1 U.S.C. § 1, Congress certainly understood that courts would not assume such a non-standard use of "person"; it could easily have replaced that term with "natural person" or "individual" had it wanted to limit the statute in such a fashion.[8]

C. The Defendants "Acted Under" Federal Officers.

1. Defendants Demonstrated the Requisite Causal Nexus Between Federal Authority and the Alleged Tortious Acts.

a. The second element of Section 1442(a)(1) requires a showing that the defendant was "acting under" a federal officer when it engaged in the conduct giving rise to the litigation. *Ryan*, 781 F. Supp. at 945. Like the statute as a whole, this second prong is interpreted broadly. See *Gurda Farms* v. *Monroe County*

(… cont'd)

See WRIGHT, MILLER & COOPER, FEDERAL PRACTICE AND PROCEDURE: JURISDICTION 3D § 3727.

[8] Amicus cites *Mignogna* v. *Sair Aviation, Inc.*, 937 F.2d 37 (2d Cir. 1991), as a purported example of denial of removal to "an impersonal entity." Pub. Cit. Br. 8-9. But *Mignogna* did not involve a private corporation; the defendant was, instead, a "nonappropriated fund instrumentality" of the federal government. This Court assumed that the defendant "could validly effect removal under section 1442(a)(1) only if that section authorizes removal by an 'agency' of the United States," and did not consider whether the fund instrumentality could be a "person acting under [an] officer." *Id.* at 41. As the defendants in this case do not claim to be federal agencies, *Mignogna* is not relevant.

Legal Assistance Corp., 358 F. Supp. 841, 843 (S.D.N.Y. 1973) (Section 1442 "has been construed broadly, and its 'persons acting under' provision particularly so"). This causation requirement is satisfied by a "threshold showing," and the court must "credit the [defendants'] theory of the case" for these purposes. See *Acker*, 527 U.S. at 432 (quoting 28 U.S.C. § 1442(a)(3)). The requirement plainly is satisfied by the facts that Judge Weinstein found.

In his decision below, Judge Weinstein construed this element of the statute to require a "substantial degree of direct and detailed federal control over the defendant's work." *Isaacson*, 304 F. Supp. 2d at 447. The great weight of judicial authority sets a lower bar on the "acting under" requirement. See, *e.g.*, *Winters*, 149 F.3d at 398 ("***causal nexus*** between the federal officer's directions and the plaintiff's claims" is sufficient); *Camacho* v. *Autoridad de Telefonos de Puerto Rico*, 868 F.2d 482, 486 (1st Cir. 1989) (it is sufficient if the defendant "act[ed] ***under the direction*** of federal officers"); *Noble* v. *Employers Ins. of Wausau*, 555 F.2d 1257 1258-59 (5th Cir. 1977) ("***subject to the authority*** of the administrator"); *Ward* v. *Congress Constr. Co.*, 99 F. 598, 599 (7th Cir. 1900) (construction contractor found to be "acting by the employment and under the authority of the treasury department"); *McAboy* v. *IMO Indus., Inc.*, 2005 U.S. Dist. LEXIS 29387, at *11 (W.D. Wash. Oct. 27, 2005) ("acting ***pursuant to the direction*** of a federal officer"); *Ryan*, 781 F. Supp. at 946 ("engaged in activities

that amount to the implementation of a federal policy ***under the direction*** of a government officer"); *Gurda Farms*, 358 F. Supp. at 844 (case-by-case determination of "to what extent defendants acted ***under federal direction*** and to what extent as independent agents"); *Pack* v. *AC&S, Inc.*, 838 F. Supp. 1099, 1103 (D. Md. 1993) ("***strong government intervention*** and the possibility that a defendant will be sued in state court as a result of the federal control") (all emphases added).

There can be no serious argument that, under the standards applied by most courts, defendants satisfy the "acting under" requirement. But even applying the stringent "substantial degree of direct and detailed federal control" standard, Judge Weinstein correctly found that removal was appropriate:

> The government designed, controlled, and supervised the production of Agent Orange as a product vital to the prosecution of the war in Vietnam. Formal military specifications and requirements were prepared and promulgated by the government. ***
>
> The government also strictly and precisely defined the markings that were to be placed on drums of Agent Orange supplied by defendants, prohibiting the placement of warnings.
>
> The government was aware of the dioxin in Agent Orange. It knew more about its dangers than defendants. ***
>
> As the Court of Appeals for the Fifth Circuit concluded in *Winters* and *Miller*, the Agent Orange supplied to the government was not a ready-to-order, preexisting or off-the-shelf chemical mixture. ***
>
> The government's full knowledge of the dioxin "problem" inherent in Agent Orange is evidence that the federal officials maintained control over the acts on which litigation is based.

Isaacson, 304 F. Supp. 2d at 449-50.

b. Judge Weinstein's conclusion is abundantly supported by the voluminous record amassed in this and prior Agent Orange litigation; it certainly cannot be described as clearly erroneous. That record is discussed in greater detail above and in the GCD Brief, but three salient points are most relevant here. First, the precise government specifications for Agent Orange and related chemicals, the government's decision to use those chemicals in high concentrations, and the government's detailed control over product packaging and labeling all mandate the conclusion that the contractors "acted under" government officers while producing herbicides for military use. See *Hercules Inc.* v. *United States*, 516 U.S. 417, 419 (1996) ("[t]he military prescribed the formula and detailed specifications for manufacture"); *Miller* v. *Diamond Shamrock Co.*, 275 F.3d 414, 418 (5th Cir. 2001) (because "[t]he government specifically asked the defendants to produce Agent Orange using 2,4,5-T[,] *** the defendants were acting under color of federal authority when they used 2, 4, 5-T to make Agent Orange").

Second, the government commandeered entire segments of the chemical industry to ensure an adequate supply of herbicide. The defendants were unable to supply 2,4,5-T to their commercial customers because the military took control of their entire 2,4,5-T production. See 1/22/2004 Defs.' Supp. Reply Br. in Opp. to Remand, Ex. 4. Moreover, the government directed Hooker Chemical Co. to

supply tetrachlorobenzene ("TCB"), an essential precursor ingredient, only to military contractors. Almost all of the manufacturers were wholly dependent on the TCB supplies that the government directed to them; had they not accepted military contracts, those defendants would not have been able to produce any 2,4,5-T-based herbicide at all. Indeed, defendants would have had to shut down their plants. See Lewis Tr. 78.

Third, the record shows extensive day-to-day direction of and control over Agent Orange production and distribution by Commerce and Defense Department officers. For example:

- The government assigned federal officers – including an Administrative Contracting Officer, an Industrial Specialist, a Quality Assurance Representative, a Preservation-Packing Specialist, a Transportation Officer, and a Labor Relations Specialist – to oversee the execution and fulfillment of each Agent Orange contract. See 1/22/04 Gordon Aff., Ex. 29.

- The Executive Secretary of the Business and Defense Services Administration ("BDSA") ordered each Agent Orange manufacturer "to provide BDSA with a monthly report of [its] production, total shipments, shipments against rated orders, and end of month inventory of 2,4,5-T and 2,4-D" and instructed them to "let us know immediately" if it "encounter[ed] any difficulty in obtaining any raw materials." See *e.g.*, 10/27/04 Krohley Affidavit, Ex. 65 (order to Dow).

- Jane Lewis of BDSA repeatedly ordered contractors to accelerate their herbicide production. See Lewis Tr. 106-10; 10/27/2004 Krohley Aff., Ex. 65.

- Jane Lewis coordinated the supply of TCB. See 10/22/04 Gordon & Kennedy Aff., Ex. 6; 1/22/04 Supp. Brief, Ex. 3 at point 2.

This comprehensive and close government control, employing a unique government power to commandeer private industry, far exceeds the direction that other courts have found sufficient to justify removal. See *Akin*, 851 F. Supp. at 823-24 (compliance with procurement specifications); *Crocker*, 852 F. Supp. at 1325-26 (government provided "contract documents, design and construction drawings, written specifications, and personal oversight"); *Reed* v. *Fina Oil & Chem. Co.*, 995 F. Supp. 705, 712 (E.D. Tex. 1998) (wartime government ownership of factory leased by defendant); *Pack*, 838 F. Supp. at 1103 (government provided product specifications and performance monitoring); *Fung* v. *Abex Corp.*, 816 F. Supp. 569, 572-73 (N.D. Cal. 1992) (government provided construction and repair specifications, monitored performance, and tested product).

c. There is nothing novel in the conclusion that government contractors "act under" a federal officer when they manufacture a product to government specifications and under government control.[9] To the contrary: "The paradigm cases in which private actors have succeeded in removing cases under the statute have involved government contractors with limited discretion." *Virden*, 304 F.

[9] It is worth noting that all Public Citizen can find to support its contrary view is dictum in a district court footnote "question[ing] whether the government contractor 'defense'" suffices for Section 1442(a)(1) removal. See Pub. Cit. Br. 14 (citing *Freiberg* v. *Swinerton & Walberg Prop. Servs., Inc.*, 245 F. Supp. 2d 1144, 1151 n.5 (D. Colo. 2002)).

Supp. 2d at 845. In *Akin*, for example, the court held that any personal injury case arising out of a military procurement contract could be removed. It noted that "[m]any courts have concluded that removal is proper when the lawsuit arises out of actions taken by a government contractor at the direction of a federal officer." 851 F. Supp. at 823-24 ("[p]lainly, when a government contractor builds a product pursuant to Air Force specifications and is later sued because compliance with those specifications allegedly causes personal injuries, the nexus requirement is satisfied"); see also *Crocker*, 852 F. Supp. at 1325, 1327 (upholding removal where "supervision and control was exercised by contract documents, design and construction drawings, written specifications, and personal oversight of Westinghouse work by naval officers and by civilian employees of the United States Navy"); *Pack*, 838 F. Supp. at 1103; *Fung*, 816 F. Supp. at 572-73.

It is therefore unsurprising that, with the single exception of Judge Weinstein's earlier decision in *Ryan*, all other courts that have considered the issue have found that the production of Agent Orange took place under sufficient federal control to satisfy Section 1442. See *Winters*, 149 F.3d at 398-99 (sufficient "that the government maintained strict control over the development and subsequent production of Agent Orange"); *id.* at 399-400 ("[w]e are convinced that the government's detailed specifications concerning the make-up, packaging, and delivery of Agent Orange, the compulsion to provide the product to the

government's specifications, and the on-going supervision the government exercised over the formulation, packaging, and delivery of Agent Orange is all quite sufficient to demonstrate that the defendants acted pursuant to federal direction and that a direct causal nexus exists between the defendants' actions taken under color of federal office and Winters's claims"); *Miller* v. *Diamond Shamrock Co.*, 275 F.3d 414, 418 (5th Cir. 2001) ("we find that the defendants produced Agent Orange at the behest of the federal government"). There is no reason to depart from those holdings now.[10]

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[10] Plaintiff Isaacson's assertion (Br. 21) that Judge Weinstein's decision "completely reversed in all respects [his] own prior *Ryan* opinion" seriously mischaracterizes *Ryan*. That opinion held that the defendants were "persons" under 28 U.S.C. 1442(a)(1) (781 F. Supp. at 946-47); that they had offered a colorable federal law defense (*id.* at 945); and that they "were under the ***direct and detailed control*** of various government officers including the Executive Secretary of the BDSA" (*id.* at 950 (emphasis added)). See also *ibid.* ("[t]he defendants were, in this respect, compelled under threat of criminal sanction to deliver Agent Orange produced according to government specifications to the Defense Department"). The court granted remand solely because "[a]lthough the defendants later ***produced and delivered*** Agent Orange under the control of federal officers, these subsequent acts are distinct from the earlier acts of product and manufacturing ***design*** being sued upon" in the earlier case. *Ibid.* (emphasis added). Plaintiffs now rely entirely on imagined defects in a manufacturing process that *Ryan* held was carried out "under the control of federal officers." Judge Weinstein was so concerned in *Ryan* with the "closeness of the case" that he employed a novel tactic to certify the decision for review. See *id.* at 952-53. This Court, however, concluded that it lacked jurisdiction to hear the appeal. See No. 92-8008 (2d Cir., May 8, 1992). Now that Judge Weinstein has reconsidered and found that "[t]he *Ryan* decision is no longer persuasive," *Isaacson*, 304 F. Supp. 2d at 445, (cont'd)

2. Plaintiffs' Contention that Defendants Have not Shown "Compulsion" Is Both Legally Irrelevant and Factually Erroneous.

Plaintiffs seek to confuse the "acting under" issue by asserting that defendants were not "compelled" to produce Agent Orange. This argument is not only a conceptual red herring, but is also factually unfounded.

As a legal matter, government compulsion is not a prerequisite for removal. Section 1442(a)(1) requires only that the government set the course of conduct by exercising "direction" over the defendant's activity; there is no language suggesting a requirement that individual actors show that they could not have opted out of the relationship. Moreover, apart from the absence of a textual foundation for plaintiffs' proposed requirement, their proposed rule is wholly inconsistent with the purpose of the statute: it would deny removal to all defendants except, perhaps, prison laborers, for even most government employees are not "compelled" to perform their jobs. And because the government must act through its officers, the benefits of removal would be largely meaningless if the only officers who could remove were those compelled to do the government's work.

(… cont'd)

the federal jurisprudence on the subject of Section 1442 removal of Agent Orange product liability claims uniformly favors removal.

Nor do the defendants need to show that the ***specific*** act alleged to be tortious was directed, let alone compelled, by the government. The requirement of a causal connection is satisfied as long as the suit arises from actions undertaken as a result of the relationship between the government and the defendant. See *Maryland* v. *Soper*, 270 U.S. 9, 33 (1926) ("[T]he statute does not require that the prosecution must be for the very acts which the officer admits to have been done by him under federal authority. It is enough that his acts or his presence at the place in performance of his official duty constitute the basis, though mistaken or false, of the state prosecution."). See also, *e.g.*, *Willingham* v. *Morgan*, 395 U.S. 402, 409 (1969); *Malone* v. *Longo*, 463 F. Supp. 139, 142 (S.D.N.Y. 1979); *Johnson* v. *Busby*, 520 F. Supp. 751 (D. S.D. 1981). Here, it is undisputed that the defendants produced Agent Orange at the government's direction and that the plaintiffs came into contact with that product only by virtue of the defendants' relationship with the U.S. government. Accordingly, the second prong of the Section 1442(a)(1) test is satisfied.

In any case, the defendants ***were*** subject to a unique and unprecedented level of government coercion. See GCD Brief 51-55. The full extent of government control over the production of Agent Orange is discussed in the accompanying brief, but it is worth emphasizing here that, notwithstanding plaintiffs' comments on the formality of the contractual language (Isaacson Br. 47-48), the defendants'

relationship with the government was anything but arm's length. As the court explained in *Maxus Energy Corp.* v. *United States*, 898 F. Supp. 399 (N.D. Tex. 1995), aff'd, 95 F.2d 1148 (5th Cir. 1996) (cited at Isaacson Br. 40), "[t]he relationship between the United States and Diamond under the D[efense] P[roduction] A[ct] is one of buyer and seller, ***except that the buyer has the power to require the seller to perform the contract and give it priority over other contracts***." *Id.* at 408 (emphasis added).

Even the plaintiffs' own experts remarked on the contrast between the façade of voluntary agreement and the reality of government compulsion. See PA6993-94 (Nash Affidavit) (describing "the technique used by Government officials to induce contractors to freely negotiate contracts for their full capacity of Agent Orange by discussing the possibility of receiving ***mandatory*** orders under the Defense Production Act"). The testimony of Gerald Stephenson, the Commerce Department attorney responsible for advising the BDSA concerning the Defense Production Act, also supports the conclusion that the defendants had no practical choice but to comply. If a contractor rejected a rated order, Stephenson explained, "it would become a matter of persuasion, if you will, or enforcement, to bring him into compliance, *** [o]r a legal force, he could be compelled." 2/4/2005 Gordon Aff., Ex. 1 (Stephenson Tr.) at 40, 43. See also *id.* at 44 ("you

could go to court and compel them to take it"); *id.* at 49 (noting availability of legal penalties).

The contractors themselves likewise treated the federal orders as mandatory. See 2/4/2005 Gordon Aff., Ex. 4 at 152 (James O. King, Diamond's Sales Manager for Agricultural Chemicals testifying that he "never understood" that a contractor could refuse to accept a D.O. rated contract). As the Fifth Circuit held, construing case law developed under predecessors to the DPA,

> when a manufacturer is given to understand that he is required to supply certain goods to the government of the United States, and is told that he has no option to decline to comply, we are satisfied that as to those goods an 'order' has been placed or received, *** notwithstanding the fact that the parties actually come to an agreement in what has the form of a contract. Substance is not to be sacrificed in such cases to form.

Eastern Air Lines, 532 F.2d at 994 (citing *Roxford Knitting Co.* v. *Moore & Tierney, Inc.*, 265 F. 177, 191 (2d Cir. 1920)). The fact that contractors "freely bid" for contracts only with the specter of mandatory orders looming over them belies the claim that the defendants acted as independent agents. In truth, they were functional subordinates of Commerce and Defense Department officials.

3. The Decisions Cited by Plaintiffs Are Inapposite.

The district court decisions plaintiffs cite in contending that defendants were not "acting under" federal officials are inapposite. The defendants in *Bakalis* and *Virden*, for example, sought removal based solely on the fact that they were

regulated by the federal government. See *Bakalis* v. *Crossland Sav. Bank*, 781 F. Supp. 140, 145 (E.D.N.Y. 1991) ("[Defendant] is simply a corporation regulated by the government."); *Virden*, 304 F. Supp. 2d 832 ("[Government]'s acceptance of a voluntary agreement formed in 1970 by the tobacco industry may suggest its implied regulation of the defendants" but is insufficient for § 1442 removal.).[11]

Similarly, the defendants in *Wigand* and *Kaplansky* grounded their removal arguments on the fact that their allegedly tortious statements occurred in the course of federal ***investigations***. See *Brown & Williamson Tobacco Corp.* v. *Wigand*, 913 F. Supp. 530, 532-33 (W.D. Ky. 1996) ("Wigand's testimony in three separate civil suits, Wigand's disclosure of confidential documents to national newspapers, and Wigand's disclosure of information in an interview with '60 Minutes' *** are not activities 'performed pursuant to federal direction,'" especially since "[t]his suit was filed before" the alleged federal control began.); *Kaplansky* v. *Assoc. YM-YWHAs*, No. 88-1292, 1989 WL 29938, at *3 (E.D.N.Y. Mar. 27, 1989) (rejecting defendants' argument that "compliance with the requests of the U.S. Attorney's Office and the federal grand jury subpoena [constituted action] under color of the *** U.S. Attorney's Office."). Thus, none of those cases involved the sort of

[11] More recent authority, on the same facts as *Virden*, ***has*** permitted removal based on an agreement entered into to stave off an enforcement order. See *Watson* v. *Philip Morris Cos., Inc.*, 420 F.3d 852, 858-61 (8th Cir. 2005).

close, ongoing, and coercive relationship that existed between the government and the defendants in this case.

Other decisions cited in plaintiffs' brief gave so little consideration to the removal issues that they provide no guidance here. *Barbara* v. *N.Y. Stock Exch., Inc.*, 99 F.3d 49 (2d Cir. 1996), rejected the defendant's removal notice *sua sponte* in one sentence, apparently without briefing. *Id.* at 55; see also 1995 WL 17214419 (defendant's brief) (omitting any discussion of removal). It is unclear from the opinion what, if any, grounds for removal the Exchange could plausibly have asserted. *Mizuna, Ltd.* v. *Crossland Fed. Savings Bank*, 90 F.3d 650 (2d Cir. 1996), devoted two sentences to removal, noting that federally chartered banks are not automatically treated as federal officers and that the defendant's failure even to allege a federal defense deprived the court of Article III jurisdiction. *Id.* at 655. The defendant in *Williams* v. *General Electric Co.*, 2005 WL 2035352 (M.D. Pa., Aug. 22, 2005), simply failed to argue the point. See *id.* at *4 ("GE has failed to provide any support for its claim that it was acting 'under' a federal officer[:] *** the affidavit offered in support of GE's removal nowhere contains an allegation that GE was acting under such an officer."). The plaintiffs' inability to identify a single case denying a seriously presented removal petition by a government contractor speaks volumes about the weakness of their position.

Finding no support in decisions that actually address removal under Section 1442, the plaintiffs next reach out to the law of CERCLA third-party liability. See Isaacson Br. 36-41. In litigation unrelated to the product liability claims at issue here, the federal government and the State of Arkansas sued Hercules under CERCLA, seeking reimbursement for environmental cleanup costs associated with the disposal of industrial wastes generated by Agent Orange production. The district court and the Eighth Circuit rejected the defense that the government should itself be liable because the companies had generated the waste in performing a federal contract. *United States* v. *Vertac Chem. Corp.*, 841 F. Supp. 884 (E.D. Ark. 1993), aff'd, 46 F.3d 803 (8th Cir. 1995).

CERCLA is an environmental statute, concerned with waste disposal, not with design and manufacturing decisions like those at issue in this case. CERCLA establishes liability for several types of third-parties, including those who "own[] and operat[e]" the facility at which the hazardous waste was produced. 42 U.S.C. § 9607(a)(2). Case law interprets subsection (a)(2) to cover anyone who "(1) actually participated in the operations of the facility; or (2) actually exercised control over, or was otherwise intimately involved in the operations of the

corporation immediately responsible for the operation of the facility."[12] *Vertac*, 841 F. Supp. at 888-89; see also *Maxus Energy Corp.*, 898 F. Supp. 399 (granting summary judgment against company that had agreed to implement remedial measures in action by that company to obtain contribution from the government for EPA-ordered cleanup costs at site where Diamond had manufactured Agent Orange).

According to appellant Isaacson,[13] if the government was not liable under CERCLA, then its control over the production process was insufficient to allow defendants to satisfy the "acting under" prong of the removal statute.[14] But the

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[12] Liability may also arise under subsection 9607(a)(3) for one who owns the waste itself and "arrange[] for [its] disposal[,] treatment" or transportation. That subsection requires that the defendant "either (1) *** had the actual authority over the disposal of hazardous substances ***, or (2) *** supplied the raw materials, and owned or controlled the work in process, and *** the generation of hazardous substances was inherent in the production process." *Vertac*, 841 F. Supp. at 888-89.

[13] Public Citizen refrains from making this argument.

[14] Isaacson also repeats the allegation that the defendants lobbied against the Weldon Spring project in order to secure contracts for themselves. Br. 39. It is undisputed, however, that it was not until October 29, 1968 – more than a month after the September 18, 1968 BDSA directive relieving manufacturers of the requirement to produce Agent Orange at the prescribed rates – that certain manufacturers expressed concern about the Weldon Spring project. See 2/4/2005 Gordon Aff., Ex. 13. That action was motivated not by a desire to preserve their own contracts but by a fear of oversupply after manufacturers had substantially increased their capacity since 1967, while military requirements were falling off. *Ibid.*

CERCLA liability and federal officer removal issues arise in entirely different contexts and serve entirely different policies. Moreover, the language of the relevant CERCLA provisions is wholly different from that of Section 1442. The latter is not about whether the government, or indeed anyone else, should be substantively liable for damages or costs; it is about whether a federal forum should be provided to protect the government and those who act under its direction from the dangers of a biased state court. It stands to reason that the bar should be lower for removal than for liability.

Furthermore, the CERCLA claims and the claims in this case relate to entirely different steps in the process. The *Vertac* court found that the government did not have the power to "take over the plant," a necessary condition for the CERCLA claims, even though it did have the power to specify the formulation of Agent Orange and compel the defendants to produce the herbicide according to its allegedly defective specifications. See *Vertac*, 841 F. Supp. at 890 ("Section 101 of the DPA gives the President authority ***to require companies to accept and perform *** contracts and orders*** ***, and to require that companies give priority to the performance of such contracts ***. The DPA does not give the United States the authority to ***take over the plant***, or to ***control the contractor's operations and activities***.") (emphasis added)). Plaintiffs cite no authority for the proposition that "acting under" requires that the government control every aspect

of the defendant's actions; in a defect case, it should be sufficient that the government compelled the defendant to produce the allegedly defective product. Indeed, considerably less than that – that the manufacturer was acting under government direction – is enough to sustain removal.

D. This Suit Challenges Actions That Were Taken Under Color Of Federal Authority.

The third and final requirement of Section 1442 is that the suit have arisen from an "act under color of *** office." The purpose of this prong is to ensure Article III jurisdiction: by requiring that the challenged acts related to the defendant's federal responsibilities, the color of office prong ensures the presence of a federal defense.

As the Supreme Court held in *Mesa* v. *California*, 489 U.S. 121 (1989), where the defendants are not themselves federal officers; but were "acting under" a federal agency (*id.* at 125) – as the present defendants were – "color of office" "impose[s] a requirement that some federal defense be alleged by the federal officer seeking removal. *** Congress meant by ['under color of office'] to preserve the pre-existing requirement of a federal defense for removal." *Id.* at 125, 135.[15] See also *Kolibash* v. *Comm. on Legal Ethics*, 872 F.2d 571, 574 (4th Cir.

[15] In *Acker*, a case brought under Section 1442(a)(3), which allows removal by officers of federal courts, the Court required that the officers "both raise a (cont'd)

1989) ("A federal officer's right of removal under § 1442(a)(1) is therefore available whenever a suit in a state court is for any act 'under color' of federal office – i.e., ***whenever a federal defense can be alleged by the federal officer seeking removal***.") (emphasis added).[16]

Like the other elements of Section 1442(a)(1), this requirement is liberally construed in favor of removal. See *Winters*, 149 F.3d at 398 ("We have previously noted the Supreme Court's admonishment that the statute's 'color of federal office' requirement is neither 'limited' nor 'narrow,' but should be afforded a broad reading so as not to frustrate the statute's underlying rationale."); *Malone*, 463 F.

(… cont'd)

colorable federal defense, and establish that the suit is for a[n] act under color of office. To satisfy the latter requirement, the officer must show a nexus, a 'causal connection between the charged conduct and asserted official authority.'" 527 U.S. at 431 (internal quotation marks and citations omitted). By contrast, "[i]n cases like this where the defendant claims to have been a 'person acting under' an officer, analysis of the two parts of the causation element tends to converge to a single inquiry: whether the defendants are being sued based upon actions taken pursuant to federal direction." *Ryan*, 781 F. Supp. at 945 (internal quotation marks and citation omitted). Thus, whether the causal nexus requirement is properly understood as tied to "acting under" or "color of office," the same ultimate standard applies, and defendants have satisfied that standard.

[16] It is the general rule, of course, "that an action may be removed from state court to federal court only if a federal district court would have original jurisdiction over the claim in suit. *** Suits against federal officers are exceptional in this regard. Under the federal-officer removal statute, suits against federal officers may be removed despite the nonfederal cast of the complaint; the federal-question element is met if the defense depends on federal law." *Acker*, 527 U.S. at 430-31.

Supp. at 142; *Areskog* v. *United States*, 396 F. Supp. 834, 838 (D. Conn. 1975) ("In construing the 'color of office' requirement for removal under § 1442(a)(1), the *Willingham* court emphasized that the phrase must be broadly construed ***.").

The defendant need not prove the federal defense in order to remove; it suffices to present a "colorable" claim that the defense applies. The Supreme Court has rejected "the anomalous result of allowing removal only when the officers had a clearly sustainable defense. *** The officer need not win his case before he can have it removed." *Willingham*, 395 U.S. at 407. Thus, it is enough that the federal defense is not "completely frivolous" (*Williams* v. *Brantley*, 492 F. Supp. 925, 928 (W.D.N.Y. 1980), aff'd, 738 F.2d 419 (2d Cir. 1984)); the removing defendant need not offer "an airtight case on the merits." *Acker*, 527 U.S. at 432. See also *Winters*, 149 F.3d at 400 ("It is important to note that the defendants need not prove the asserted defense, but need only articulate its 'colorable' applicability to the plaintiff's claims."); *Torres* v. *CBS News*, 854 F. Supp. 245, 247 (S.D.N.Y. 1994) (granting removal despite finding that bulk of authority was contrary to defendant's federal defense). And courts must "credit the [defendant's] theory of the case" when determining whether the defendants have raised a colorable federal defense; indeed, in *Acker* the Court upheld removal but rejected the defense. See 527 U.S. at 435-36.

Here, it is plain that defendants have demonstrated far more than a "colorable" claim to the government contractor defense. Every federal judge to consider the issue – including a panel of this Court – has found that the defendants are entitled to the protection of that defense. Accordingly, the third prong of the removal statute is satisfied.

1. The Government Contractor Defense Satisfies the "Under Color of Office" Requirement.

Plaintiffs' protestations to the contrary notwithstanding, it is established beyond question that the government contractor defense satisfies the requirement of a federal defense under § 1442(a)(1).[17] See WRIGHT, MILLER & COOPER, FEDERAL PRACTICE AND PROCEDURE: JURISDICTION 3D § 3727 (1998); RICHARD H. FALLON, JR. ET AL., HART & WECHSLER'S THE FEDERAL COURTS AND THE FEDERAL SYSTEM 909 (5th ed. 1998); *Winters*, 149 F.3d at 401; *Miller*, 275 F.3d at 418 ("As in the present action, the colorable federal defense asserted by the defendants in *Winters* was the military contractor defense."); *Guillory* v. *Ree's Contract Servs., Inc.*, 872 F. Supp. 344, 346 (S.D. Miss. 1994); *Crocker*, 852 F. Supp. at 1327;

[17] The metaphysical distinction plaintiffs attempt to draw between "defenses" and "standards of liability" (Isaacson Br. 25-26) is nonsensical. If federal law provides a specific "standard of liability" for military contractors and then protects contractors meeting that standard against state claims, it necessarily provides a federal "defense" to those claims. In any event, neither the text nor the rationale of § 1442(a)(1) requires a federal "defense" in some narrow, technical sense; the statute requires only a federal question.

Akin, 851 F. Supp. at 823; *Pack* v. *AC&S, Inc.*, 838 F. Supp. 1099, 1103 (D. Md. 1993); *Fung*, 816 F. Supp. at 573. *Boyle* itself describes the defense as a matter of federal common law. 487 U.S. at 504. Indeed, the defendants in this case present a stronger case for removal than does the typical government contractor: they did not simply produce a product pursuant to military specifications but rather operated under the ***direct supervision and compulsion of officials of the Business and Defense Services Administration*** (a situation that is unlikely to recur, because the Defense Production Act has been permitted to lapse).

It therefore is no surprise that other courts hearing product liability claims against Agent Orange contractors have found the potential availability of the government contractor defense to support removal. See *Miller*, 275 F.3d at 418 ("[a]s in the present action, the colorable federal defense asserted by the defendants in Winters was the military contractor defense"); *Winters*, 149 F.3d at 401 ("[w]ithout deciding the merits of the government contractor defense in this case, we certainly deem its assertion sufficiently colorable for § 1442 removal purposes"). And given that defendants have repeatedly won summary judgment on the basis of the government contractor defense, Isaacson's arguments on the merits of the defense (Br. 31-45) cannot support the claim that defendants have not made even a "threshold showing." See *Isaacson*, 304 F. Supp. 2d 404; Miller, 275 F.3d at 423; *In re "Agent Orange" Prod. Liab. Litig.*, 565 F. Supp. 1263, 1274

(E.D.N.Y. 1983) (granting summary judgment as to the first two prongs of the defense for all defendants and complete summary judgment as to several defendants); *cf. Hercules Inc.* v. *United States*, 24 F.3d 188, 198 (Fed. Cir. 1994) ("Hercules and Thompson cannot prove that their damages [*i.e.*, payments to the Agent Orange settlement fund] were caused by the government[] *** because they were protected from liability to the Agent Orange plaintiffs by the government contractor defense.").

2. The Court Should Reject Plaintiffs' Attempts to Graft Additional Requirements Onto the Statute.

Unable effectively to contest that the settled requirements for removal under Section 1442(a)(1) have been satisfied, plaintiffs and their amicus attempt to read novel and insupportable elements into the statute. There is no warrant for these efforts.

a. "Color of Law" Cases Have No Bearing On Officer Removal.

First, amicus attempts to draw elaborate inferences from dictum in *Screws v. United States*, 325 U.S. 91 (1945), a federal criminal prosecution for violation of the victim's constitutional rights. See Pub. Cit. Br. 15-16.[18] The statute at issue in *Screws* required a finding that the defendant had acted "under color of any law."

[18] Again, plaintiffs themselves do not propound this argument.

In finding that requirement satisfied, the Court rejected the defendant's reliance upon two decisions that had denied removal under the old federal officer removal statute, 28 U.S.C. § 76, finding that "those cases do not supply an authoritative guide to the problems under § 20" (325 U.S. at 111-12) and implying that the "color of office" standard applied in those cases was narrower than the "color of law" standard at issue in *Screws*. There is today a new and different removal statute, the interpretation of which is not meaningfully illuminated by *Screws*. To the extent that case may be thought to support a narrow construction of "color of office," it is superseded by, *inter alia*, *Willingham* and *Acker*. Indeed, in the 60 years since it was decided, *Screws* has never been interpreted as restricting removal under Section 1442 – indeed, it has never even been cited for that proposition. In fact, the Supreme Court itself recently reiterated that "[w]e are not bound to follow our dicta in a prior case in which the point now at issue was not fully debated." *Central Va. Cmty. Coll.* v. *Katz*, 546 U.S. __, 2006 WL 151985, at *4 (Jan. 23, 2006). Accordingly, the Court's dictum regarding the "color of office" standard has no force here.

b. Invocation of Section 1442(a)(1) Does Not Require an Immunity Defense – Any Federal Defense Is Sufficient.

Plaintiffs get no further when they rely on the Supreme Court's decision in *Willingham* for the proposition that Section 1442(a)(1) permits removal only when

the defendant advances, not ***any*** "colorable federal defense," but a "federal immunity defense." Isaacson Br. 27-30. This argument is futile for several reasons, the first of which is that defendants here ***are*** asserting an immunity defense: if they meet the conditions set out in *Boyle*, they are clothed in the government's unwaived sovereign immunity. Only irrelevant terminological hairsplitting could characterize that immunity as functionally different for these purposes from that enjoyed by, say, federal law enforcement officers validly performing their federal duties.

In any event, a claim of immunity is not a necessary prerequisite to Section 1442 removal. While the Court said in *Willingham* that "***one*** of the most important reasons for removal is to have the validity of the defense of official immunity tried in a federal court" (395 U.S. at 407) the decision nowhere suggested that Section 1442(a)(1) ***requires*** an immunity defense. To the contrary, the Court earlier instructed that "the test for removal should be broader, not narrower, than the test for official immunity." *Willingham*, 395 U.S. at 405.

Plaintiffs' discussion of *California* v. *Mesa* is similarly off-base. In that case, the defendant mail truck drivers attempted to remove solely on the basis of the "causal connection" between their federal employment and the traffic offenses with which they were charged. The problem was not that they could not present an official immunity defense, but rather that they could not present ***any*** federal

defense at all. The court of appeals had held that officers may not invoke Section 1442 "when they raise no colorable claim of federal immunity ***or other federal defense***." 813 F.2d 960, 967 (9th Cir. 1987) (emphasis added); see also *Mesa*, 489 U.S. 121, 125 (1989) (reciting that the state argued only for "a requirement that ***some federal defense*** be alleged" (emphasis added)). Because the defendants had raised ***no*** federal defense, the Supreme Court's concern was not with the distinction between immunity and other defenses, but rather with ensuring the existence of Article III federal question jurisdiction. 489 U.S. at 136 ("[t]he Government's view, which would eliminate the federal defense requirement, raises serious doubt whether, in enacting § 1442(a), Congress would not have expand[ed] the jurisdiction of the federal courts beyond the bounds established by the Constitution" (internal quotation marks omitted) (alteration in original)).[19]

Indeed, even *Tennessee* v. *Davis*, 100 U.S. 257 (1879), the progenitor of officer removal jurisprudence, did not involve an immunity defense. As *Mesa* explained, the state-law justification defense required that Davis prove both that he

[19] See also RICHARD H. FALLON, JR. ET AL, HART & WESCHLER'S THE FEDERAL COURTS AND THE FEDERAL SYSTEM 433 (5th ed. 2003) ("Clearly in the background in *Mesa* was a concern that, if § 1442 were construed to permit removal in the absence of a federal defense, the case might not 'aris[e] under' federal law in the constitutional sense, and thus would not come within any of the authorized categories of federal jurisdiction under Article III" (alteration in original)).

was actually defending himself and that his acts were justified. Davis did not claim that he was ***immune*** under federal law, but only that his federal duties provided the justification required for his state law defense. Nonetheless, the Court allowed Davis to remove. See *Mesa*, 489 U.S. at 127-28. Thus, plaintiffs' position finds no support either in *Mesa* itself or in the precedent that led to it.[20]

c. Section 1442(a)(1) Also Does Not Limit Removal To Defendants That Were "Enforcing Federal Law" at the Time of the Challenged Act.

Like plaintiffs, amicus misconstrues *Willingham*, reading that decision to establish that removal is available only to defendants that were "enforcing federal law" when they engaged in the allegedly tortious activity. See Pub. Cit. Br. 11.

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[20] The related suggestion that the defendants' inability to claim sovereign tax immunity somehow bars them from removing these cases to federal court (see Pub. Cit. Br. 16 n.5) is likewise baseless. Public Citizen doubtless is correct that the assertion of the government contractor defense (or, for that matter, most other federal defenses) "does not present the problem of 'clashing sovereignty' that *** federal tax immunity *** is intended to avoid." *Ibid.* (citation omitted). But "clashing sovereignty" of the sort addressed in the tax immunity decisions never has been thought a prerequisite for federal-officer removal. Federal judges, for example, have no immunity against state income tax liability but nevertheless may remove a suit when they are sued in state court for actions that arise out of their federal duties. See *Acker*, 527 U.S. 423. The federal officer removal statute does not preempt state law, as does the tax immunity doctrine; instead, it creates a practical "protect[ion for] federal officers from interference by hostile state courts" by providing a federal forum to protect "a 'federal interest in the matter,' *Poss* v. *Lieberman*, 299 F. 2d 358, 359 (C. A. 2d Cir.)." *Willingham*, 395 U.S. at 402, 406. That interest warrants removal in cases like the instant ones.

There is, of course, no such requirement on the face of Section 1442. Assuming that amicus intends "enforce" in its usual sense of "compel obedience to," its interpretation would deny removal to most federal employees making official decisions. Such an approach finds no support in the text or policy of Section 1442(a)(1). After all, the point of Section 1442(a)(1) is to ensure that state courts do not frustrate the effectuation of federal policy, and that goal comes into play whether the defendant is compelling others to comply with federal standards or is itself performing a federal function.

If amicus instead means "enforce" in the sense of "implement," the defendants meet this standard: their actions were essential to the strategy of "deny[ing] enemy forces the benefits of jungle concealment along transportation and power lines and near friendly base areas." *In re "Agent Orange" Prod. Liab. Litig.*, 818 F.2d 187, 193 (2d Cir. 1987).

Selectively quoting *Willingham*, Public Citizen nevertheless asserts that "the purpose of the removal statute is to permit removal where 'federal officers can raise a colorable defense *arising out of their duty to enforce federal law.*'" Pub. Cit. Br. 11 (quoting 395 U.S. at 406-407) (Public Citizen's emphasis). But it omits the first part of the sentence, in which the Court stated that, "***[a]t the very least***, [Section 1442] is broad enough to cover all [such] cases." *Willingham*, 395 U.S. at

406 (emphasis added). Amicus has attempted to convert a sufficient condition into a necessary one by eliding unhelpful language.

Nor does the *Mesa* opinion "emphasize[] that the requirement of such a defense is integral to the statute." Pub. Cit. Br. 11 (citing *Mesa*, 489 U.S. at 126). The word "enforce" does not even appear on the quoted page. Instead, the *Mesa* Court observed generally that "an unbroken line of this Court's decisions extending back nearly a century and a quarter have understood all the various incarnations of the federal officer removal statute to require the averment of ***a federal defense***." *Mesa*, 489 U.S. at 133-34 (emphasis added).

Public Citizen's position finds no more support in *Jamison* v. *Wiley*, 14 F.3d 222 (4th Cir. 1994). That case does not say, as Public Citizen misleadingly describes it, that the removing defendant "***must***" "allege a 'colorable' federal defense *** 'arising out of [his] duty to enforce federal law'" (Pub. Cit. Br. 11 (quoting *Jamison*, 14 F.3d at 238[21]) (emphasis added) (Public Citizen's alterations)); it says only that *Mesa* "guarantee[s] a federal officer the right to remove an action *** when he can allege" such a defense. *Jamison*, 14 F.3d at 238.

[21] Although the brief cites to p. 239, the quoted language appears on p. 238.

d. Public Citizen's Policy Arguments in Favor of a Narrow Construction of Section 1442(a)(1) Ignore The Clear Language and Purpose of the Statute.

As its last gasp, Public Citizen concludes (Br. 18-22) by asking the Court simply to ignore the federal officer removal statute. But its disquisition on the competence of state courts to adjudicate federal questions is better addressed to Congress. The fact, unpalatable though it may be for plaintiffs whose claims have been rejected repeatedly in federal court, is that Congress has chosen not only to grant federal officers and those acting under their direction a removal right, but to expand that right over time.[22] See *Isaacson*, 304 F. Supp. 2d at 446; *Hill Parents Assoc.* v. *Giaimo*, 287 F. Supp. 98, 99 (D. Conn. 1968) (section 1442 "has steadily been enlarged in scope"). Courts interpreting the statute over the past two centuries, moreover, have emphasized that it should be interpreted broadly in light of its legislative purpose. Section 1442, after all, does not displace state law or

[22] Plaintiffs' related contention – that state courts are fully capable of adjudicating the government contractor defense (Isaacson Br. 30-31 (citing state cases)) – misses the point. The case is removable not because of some functional incapacity of the state courts but because Congress believed federal courts to be the more suitable forum for the adjudication of federal defenses asserted by persons acting at the direction of federal officers. See *Arizona* v. *Manypenny*, 451 U.S. 232, 242 (1981); *Willingham*, 395 U.S. at 406; *Malone*, 463 F. Supp. at 141 ("Removal pursuant to this provision *** is an absolute right and is not dependent upon the discretion of the court.").

extinguish substantive claims; it merely ensures that defenses proffered by those executing federal policy will be given a fair hearing in federal court. In so doing, it serves an important policy objective: like the government contractor defense itself, the removal statute enables the government to obtain what it needs, when it needs it. As Judge Weinstein stated:

> If cases such as those in this present wave of Agent Orange claims were scattered throughout state courts, manufacturers would have to seriously consider whether they would serve as procurement agents to the federal government. Since the advent of the Agent Orange litigation in 1979, mass tort law has become more hazardous for defendants. While on balance state tort law does more good than harm, its vagaries and hazards would provide a significant deterrent to necessary military procurement.

Isaacson, 304 F. Supp. 2d at 451.

Public Citizen's evident view that this Court should disregard Section 1442(a)(1) because it is "anachronistic" (see Pub. Cit. Br. 19) finds no support in the law. As Justice Brennan pointed out in his *Mesa* concurrence, "[t]he days of widespread resistance by state and local governmental authorities to Acts of Congress and to decisions of this Court in the areas of school desegregation and voting rights are not so distant that we should be oblivious to the possibility of harassment of federal agents by local law enforcement authorities." 489 U.S. at 140 (Brennan, J., concurring).

Federal interests in supremacy and fairness to federal officers, moreover, are not limited to a particular historical era. See *Willingham*, 395 U.S. 405-406

(holding that "the removal statute is an incident of federal supremacy" and concluding that "[t]he purpose of all these enactments is not hard to discern"); *Louisiana* v. *Sparks*, 978 F.2d 226, 232 (5th Cir. 1992) ("[T]he Supreme Court has for over two decades required a liberal interpretation of § 1442 in view of its chief purpose – to prevent federal officers who simply comply with a federal duty from being punished by a state court for doing so."). These concerns are even more salient in the case of military contractors. As the Fifth Circuit noted with regard to Agent Orange contracting:

> The welfare of military suppliers is a federal concern that impacts the ability of the federal government to order and obtain military equipment at a reasonable cost. Federal interests are especially implicated where, as in this case, the Defense Department expressly issued detailed and direct orders to the defendants to supply a certain product. The specificity of the order raises this issue to a federal concern subject to removal under section 1442(a)(1).

Winters, 149 F.3d at 398. See also *Isaacson*, 304 F. Supp. 2d at 451 ("Because government contractor cases are freighted with factual findings, *Boyle*, while laying down a substantive rule, may be readily circumvented by state courts unsympathetic to the defendants."). As *Winters* and other courts have held, Section 1442(a)(1) requires that such federal interests be protected by giving defendants the right to remove to a federal forum.

CONCLUSION

For all of the foregoing reasons, this Court should affirm the order below granting removal of these cases to federal court pursuant to 28 U.S.C. § 1442 (a)(1).

February 6, 2006

Respectfully submitted,

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STATUTORY ADDENDUM

United States Code Annotated

Title 28. Judiciary and Judicial Procedure

Part IV. Jurisdiction and Venue

Chapter 89. District Courts; Removal of Cases from State Courts

§ 1442. Federal officers or agencies sued or prosecuted

(a) A civil action or criminal prosecution commenced in a State court against any of the following may be removed by them to the district court of the United States for the district and division embracing the place wherein it is pending:

(1) The United States or any agency thereof or any officer (or any person acting under that officer) of the United States or of any agency thereof, sued in an official or individual capacity for any act under color of such office or on account of any right, title or authority claimed under any Act of Congress for the apprehension or punishment of criminals or the collection of the revenue.

(2) A property holder whose title is derived from any such officer, where such action or prosecution affects the validity of any law of the United States.

(3) Any officer of the courts of the United States, for any act under color of office or in the performance of his duties;

(4) Any officer of either House of Congress, for any act in the discharge of his official duty under an order of such House.

(b) A personal action commenced in any State court by an alien against any citizen of a State who is, or at the time the alleged action accrued was, a civil officer of the United States and is a nonresident of such State, wherein jurisdiction is obtained by the State court by personal service of process, may be removed by the defendant to the district court of the United States for the district and division in which the defendant was served with process.

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C), I hereby certify that this brief was produced in Times New Roman (a proportionally-spaced typeface), 14-point type and contains 13,969 words (based on the Microsoft Word word processing system word count function).

I further certify that the electronic copy of this brief filed with the Court is identical in all respects except the signature to the hard copy filed with the Court, and that a virus check was performed on the electronic version using the Norton Anti-Virus software program.

_/s/ Lauren R. Goldman_____
Lauren R. Goldman
Mayer, Brown, Rowe & Maw LLP
Counsel to the Dow Chemical Company

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

In re "Agent Orange" Product Liability Litigation	:	**MDL No. 381**
	:	Nos. 05-1760-CV; 05-1693-CV; 05-1694-CV; 05-1695-CV; 05-1696-CV; 05-1698-CV; 05-1700-CV; 05-1737-CV; 05-1771-CV; 05-1810-CV; 05-1813-CV; 05-1820-CV; 05-2450-CV; 05-2451-CV; 05-1817-CV

CERTIFICATE OF SERVICE

I, Andrew L. Frey, a member of the Bar of this Court, hereby certify that on Monday, February 6, 2006, I caused to be served upon each counsel of record for Appellants two copies of Proof-Brief for Defendants-Appellees on Removal via first-class mail to the addresses that appear on the following service list.

I further caused the document to be served today via electronic mail on each counsel of record for Appellants who has a functioning e-mail address, as identified in the following service list.

February 6, 2006

Respectfully submitted,

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Christopher E. Buckey **Shanley, Sweeney, Reilly & Allen, P.C.** The Castle at Ten Thurlow Terrace Albany, NY 12203 518-463-1415 518-463-3210 (fax) *cbuckey@shanleysweeney.com*	**Twinam v. Dow Chemical Co., et al.** **05-1509-CV**
Robert B. Evans, III **Burgos & Evans, L.L.C.** 3632 Canal Street New Orleans, LA 70119-6135 504-488-3722 504-482-8525 (fax) *revans@burgosevans.com*	**Sampey v. Dow Chemical Co., et al.** **05-1771-CV**

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James Russell Tucker Denise L. Marsh **Tucker & Ratcliffe, LLP** 500 N. Akard Street—Suite 3500 Dallas, TX 75201 (214)740-3000 *JRTuckerPC@aol.com* *deniselmarsh@yahoo.com*	**Patton v. Dow Chemical Co., et al.** **05-2451-CV**
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LAW DEPARTMENT

December 5, 1966

cc Frank C. Rehfeld
Allan F. Davis

Department of Defense
D.O. Order for 2,4-D

TO Charles P. Zoersch

This will confirm the substance of our conversation regarding the recent order by the Department of Defense for 146,823 gallons of 2,4-D and 2,4,5-T required for use in Vietnam and given a D.O. priority rating. The following questions arose in connection with the order:

1. Is it necessary to sell the product at the price of $6.19, as stated in the Government's telegraphic order?

A. This appears to be answered negatively in the Code of Federal Regulations which in Reg. 2 of Chap. VI provides in Section 10(c)(1) as follows:

> "A supplier does not have to accept a rated order in any of the following cases, but there must be no discrimination in such cases against rated orders or between rated orders of different customers:
>
> (1) if the person seeking to place the order is unwilling or unable to meet regularly established prices and terms of sale or payment. . . ."

As construed by counsel for the BDSA, this section does not obligate selling at the Government's price if a supplier has a "regularly established price" higher than that offered by the Government. The reference in the regulation to discrimination makes it important that a rejection of a D.O. order on the grounds of price should not be in the context of a business practice of selling to others at a price lower than the "regularly established price" sought to be obtained under the D.O. order. Such a practice would open the Company to a possible claim of a wrongful rejection, which could lead to a sanction of being barred from future bidding on Government contracts.

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EXHIBIT 9

P12274

SCHEDULE #1

0385289

Your proposal, therefore, to accept the order at a price higher than offered by the Government should therefore be permitted under the CFR.

2. Does the unavailability of raw materials for the product excuse acceptance of the D.O. order?

A. Unavailability of raw materials would be a basis for rejecting rated orders. However, one does not have a situation of unavailability where sufficient product is being manufactured, but it is being sold to non-rated customers. The Government would take priority over such customers as to rated orders.

In addition, it is mandatory to use the rated priority for the procurement of raw materials if an order is accepted. If you cannot be sure that your source of supply is adequate, the order might be accepted subject to the available raw material supply. The priority rating would be passed onto the Company's supplier, pursuant to title 32A, Reg. 2, Section 5.

3. Is a D.O. a force majeure event for purposes of cutting back or stopping all shipments to contract customers who do not have priority?

A. The answer is affirmative. This event should clearly fall within the force majeure provisions of the standard Monsanto Sales Contract.

R. W. Duesenberg
Attorney

RWD/mkb

SCHEDULE #1

0385290

000350

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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

ROBERT C. CARTER, *et al.*, Plaintiffs, -v- MONSANTO COMPANY, *et al.* Defendants.	Civil Action No. 3:08-cv-1359 Removed from the Circuit Court of Putnam County, West Virginia Civil Action No. 00-C-300 **AFFIDAVIT OF LAWRENCE EUGENE DOTSON**

LAWRENCE EUGENE DOTSON, of full age and duly sworn, certifies:

1. I began working for Monsanto Company, at its Nitro plant in May of 1961 and continued to work there until September of 1969.

2. During the mid-1960s, I was the Production Supervisor of the 2,4,5-tricholorophenoxyacetic acid ("2,4,5-T") operations in Building 92.

3. During my tenure, the federal government's demands for 2,4,5-T steadily increased and eventually the federal government commandeered Monsanto's entire 2,4,5-T production.

4. In order to meet the government's demands for 2,4,5-T, it was necessary that Monsanto modify its Nitro plant's operations, including:

   a. neutralizing the levels of monochloroacetic acid;

   b. installing new circulation methods within the reactors;

   c. adding sprayers to the reactors in order to wash the side walls;

   d. enclosing the production area in order to minimize discharge during the production process;

EXHIBIT
10

e. modifying the autoclave reactor conditions;

f. changing the process of drying the 2,4,5-T product prior to shipping, opting instead for transport of wet product; and

g. modifying the transportation of the 2,4,5-T product from barrels to tote bins.

5. During the mid-1960s, I know from my personal knowledge that officials from the federal government were on-site at the Nitro plant for at least one week in order to familiarize themselves with the plant's operations.

6. During this time, the government officials maintained an office on-site at the Nitro plant.

7. During the government's visit, I personally showed the federal officials around Monsanto's Nitro plant, focusing on all aspects of the 2,4,5-T production process, including the temperature settings for the autoclave reactor.

8. It is my understanding that other Nitro plant employees showed the government officials the plant's air control systems, dryers, and liquid discharge methods.

9. This visit by federal officials to the Nitro plant was likely not the only one, nor does it likely represent the full extent of the federal government's involvement with the 2,4,5-T operation. It is, however, this visit I recollect more than forty (40) years later.

10. It is my understanding that the federal government planned to implement Monsanto's 2,4,5-T production processes at its own plant in Alabama. However, it is my understanding that the federal government never opened its own 2,4,5-T production plant.

I certify that the foregoing statements are true to the best of my recollection. I am aware that if any of the foregoing statements are willfully false, I am subject to punishment.

Dated: April 1, 2009

Respectfully submitted,

Lawrence Eugene Dotson

STACI S. WARNER NOTARY PUBLIC CATAWBA COUNTY, NC

Sworn to me this
1st day of April 2009

Notary Public

My Commission Expires NOV 28 2009

Monsanto COMPANY 3046-1 VAN

1101 17th Street, N.W.
Washington, D.C. 20006
Phone: (202) 296-0050

March 10, 1966

ESA

Mr. W. E. Vandeventer
MAAMA
Olmsted Air Force Base, Pa.

Attention: MAOQT

Dear Mr. Vandeventer:

The technical information you requested on 2,4-D and 2,4,5-T acids is attached. As you will notice we have included specifications on two different forms of the ester.

If we can supply you additional useful information or, indeed, help you in any other manner, I will be pleased to hear from you again.

Very truly yours,

John S. Bush
Manager, Government Sales

JSB/mr

Attachments

MONSANTO CHEMICAL COMPANY

AGRICULTURAL CHEMICAL DIVISION

90465

FSA

PRODUCT SPECIFICATION

PRODUCT: 2,4,5-T Acid

GRADE: Technical

CODE NO.: 8515-100-31-06

Formula: $C_6H_2Cl_3OCH_2COOH$

Mol. Wt.: 255.49
Cl = 41.63%

CHARACTERISTICS	LIMITS
Appearance	Off-white to light tan powder
Assay, total 2,4,5-T acid equivalence	98.0% min.*
Meltingpoint	152°C min.
Trichlorophenol	0.5% max.
Water	0.5% max.
Ash	0.2% max.

* AOAC method, ninth edition, page 46, or equivalent.

MONSANTO CHEMICAL COMPANY

IN 167

AGRICULTURAL CHEMICAL DIVISION

90466

PRODUCT SPECIFICATION

PRODUCT 2,4,-D Acid

GRADE Technical

CODE NO. 3835-000-31-03

Formula: $C_6H_3Cl_2OCH_2COOH$
Mol. Wt. = 221.042
Cl = 32.08%

LSA

CHARACTERISTICS	LIMITS
Appearance	Off white to light tan granular powder
Assay, total 2,4-D acid equivalence	99.0% min. *
Melting Point	135.0°C min.
Dichlorophenol	0.35% max.
Water	0.5% max.
Ash	0.20% max.

* By AOAC method, ninth edition, page 46, or equivalent.

MONSANTO CHEMICAL COMPANY

AGRICULTURAL CHEMICAL DIVISION

90467

PRODUCT SPECIFICATION

PRODUCT Butyl Ester of 2,4-D Acid

GRADE Technical

CODE NO. 1460-000-31-03

Formula: $Cl_2C_6H_3OCH_2CO_2C_4H_9$

Mol. Wt. = 277.15

Cl = 25.59%

FSA

CHARACTERISTICS	LIMITS
Appearance	A clear, light brown liquid
Total 2,4-D Acid Equivalence	79.0 - 79.8% *
2,4-D Acid, Free	0.5% Maximum
Crystallizing Point	7.0°C Minimum
Specific Gravity @ 25/25°C	1.232 - 1.247

* By AOAC method, ninth edition, page 45, or equivalent.

BC 0223325 BATCH 614 FSA JUS 00M

MONSANTO CHEMICAL COMPANY — AGRICULTURAL CHEMICAL DIVISION

IN 167

90168

FSA

PRODUCT SPECIFICATION

PRODUCT Isooctyl Ester of 2,4,5-Trichlorophenoxyacetic Acid

GRADE Technical

CODE NO. 2100-000-31-03

$Cl_3C_6H_2OCH_2CO_2C_8E_{17}$

Mol. Wt. - 367.71

Cl = 28.93

Theoretical 2,4,5-T Acid Equivalence Factor = 69.5

CHARACTERISTICS	LIMITS	METHOD
Total 2,4,5-T acid equivalence	67.5-69.5	AOAC (1)
Free acid as 2,4,5-T acid	1.0% max.	(2)
Appearance	Clear, dark brown, oily liquid	
Water at time shipped	0.10% max.	KF
Sp. Gr. @ 25/15.6° C.	1.215 typical	Standard
True 2,4,5-T Isooctyl Ester content	93% typical	Instrumental

(1) Methods of Analysis, AOAC, Ninth Edition, 1960, Page 46, 4.131, total chlorine for esters calculated to the T ester

(2) Ibid, 4.129 for 2,4-D acid, but calculate to 2,4,5-T.

BATCH 614 FSA JUS 0069

MONSANTO CHEMICAL COMPANY

IN 169

AGRICULTURAL CHEMICAL DIVISION

90469

PRODUCT SPECIFICATION

PRODUCT: Isooctyl Ester of 2,4-D acid

GRADE: Technical

CODE NO.: 4870-000-31-03

Formula: $Cl_2C_6H_3OCH_2CO_2C_8H_{17}$

A clear, yellow oily liquid
Mol. Wt.=333.250
Cl = 21.28%

CHARACTERISTICS	LIMITS
Total 2,4-D acid equivalence	64.4-66.3% *
2,4-D acid, free	1.0% max.
Specific Gravity @ 25/15.6°C	1.147, typical

* By AOAC method, ninth edition, page 46 or equivalent.

MONSANTO CHEMICAL COMPANY AGRICULTURAL CHEMICAL DIVISION

90470

FSA

PRODUCT SPECIFICATION

PRODUCT Butyl Ester of 2,4,5-T Acid

GRADE Technical

CODE NO. 1465-000-31-03

Formula: $Cl_3C_6H_2OCH_2CO_2C_4H_9$

Mol. Wt. = 311.60

Cl = 34.14%

Theoretical 2,4,5-T Acid Equivalence Factor = 82.0%

CHARACTERISTICS	LIMITS
Appearance	Reddish brown solid or clear, reddish brown liquid
Total Acid Equivalence	80.0 - 82.0% *
Free Acid as 2,4,5-T Acid	1.0% max.
Moisture	0.3% Maximum
Solution Point	28°C
Sp. Gravity @ 25/15.6°C	1.326 Typical
Free Dichlorophenol	0.30% Maximum

* By AOAC method, ninth edition, page 46, or equivalent.

O-H-210a
SEPTEMBER 5, 1958
SUPERSEDING
Int. Fed. Spec. O-H-00210 (ACR-ARS)
July 1, 1957

FEDERAL SPECIFICATION

HERBICIDE, 2,4,5—TRICHLOROPHENOXYACETIC ACID (2,4,5-T) (SALTS AND ESTERS)

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. — 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) is an organic acid relatively insoluble in water or oil. It is normally compounded before being used as an herbicide. 2,4,5-T is a selective herbicide. When applied in the same manner as 2,4-dichlorophenoxyacetic acid (2,4-D) it has similar effects on most plants. As a post-emergence spray it will kill many broad-leaved weeds and woody plants, with little or no injury to many grasses, sedges, and other monocotyledonous plants. As a pre-emergence spray or as a foliage spray on seedlings, 2,4,5-T can also be used to control many annual grasses. However, 2,4,5-T is more effective on many woody plants and will control certain species not effectively controlled by 2,4-D. This specification covers two general types of 2,4,5-T.

1.2 Classification.

1.2.1 *Types.*—Formulations of 2,4,5-T covered by this specification shall be of two general types as specified:

Type I.—Liquid amine salt forms which are usually less effective on plants per pound of 2,4,5-T acid equivalent than the ester forms.

Type II.—Liquid ester forms which are the most toxic forms of 2,4,5-T to plants per pound of 2,4,5-T acid equivalent.

Class 1.—Volatile alkyl esters of 2,4,5-T (see 6.2.3).

Class 2.—Low volatile esters of 2,4,5-T.

2. APPLICABLE SPECIFICATIONS, STANDARDS, AND OTHER PUBLICATIONS

2.1 The following specifications and standards, of the issues in effect on date of invitation for bids, form a part of this specification:

Federal Specifications:

PPP-B-636—Boxes, Fiber.

PPP-C-96 — Cans, Metal 28 Gage and Lighter.

PPP-D-729 — Drums: Metal, 55-Gallon (For Shipment of Noncorrosive Materials).

PPP-D-760—Drums and Pails, Metal (5 and 16.64 Gallon).

Federal Standards:

Fed. Std. No. 102—Preservation, Packaging, and Packing Levels.

Fed. Std. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications, Standards, and Handbooks and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a sub-

EXHIBIT 12

scription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, Seattle, and Washington, D. C.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications, Standards, and Handbooks from established distribution points in their agencies.)

Military Standards:

MIL–STD–105 — Sampling Procedures and Tables for Inspection by Attributes.

MIL–STD–129—Marking for Shipment and Storage.

(Copies of Military Standards referenced above, required by contractors in connection with specific procurement functions, should be obtained from the procuring agency or as directed by the contracting officer.)

2.2 Other publications. — The following documents form a part of this specification. Unless otherwise indicated, the issue in effect on date of invitation for bids shall apply:

Governmental:

Federal Insecticide, Fungicide, and Rodenticide Act.

(Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Prices may be obtained from the Superintendent of Documents.)

Nongovernmental:

Association of Official Agricultural Chemists:

Official Methods of Analysis. Eighth Edition. 1955.

(Official Methods of Analysis is published by the Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C.)

3. REQUIREMENTS

3.1 Type I.—The liquid amine salt forms of 2,4,5-trichlorophenoxyacetic acid shall contain a minimum of four pounds of 2,4,5-T acid per gallon of formulation at 68° F., as determined in 4.4.1. The amine in this formulation shall be either the alkyl or alkanolamine or mixtures of these types. The product shall be soluble in hard or soft water at the concentrations specified in the directions for use, nonfoaming, disperse easily, making a solution that contains no ingredients which will inhibit the application of the material at the concentrations normally used for weed and woody plant control. The product shall contain no ingredients which will coagulate with water. The material shall contain sequestering agents which facilitate its application in hard or soft water.

3.2 Type II. — The liquid ester forms of 2,4,5-trichlorophenoxyacetic acid.

3.2.1 *Class 1, the volatile esters of 2,4,5-trichlorophenoxyacetic acid.*—The alkyl liquid esters of 2,4,5-T shall contain a minimum of four pounds of 2,4,5-T acid per gallon of formulation at 68° F. as determined in 4.4.2. The esters in this class shall belong to the alkyl group such as methyl, ethyl, propyl, isopropyl, butyl, amyl, and pentyl, or mixtures of these alkyl esters. The formulation shall be a clear solution readily miscible with oil and emulsifiable when mixed with water. It shall contain the necessary solvents and emulsifying agents, such that the emulsion formed with water required a minimum of agitation to maintain intimate mixture with the diluent during the mixing and application period. The oil carrier for the formulation shall be of such gravity and viscosity, not detracting from the killing power of the active ingredients, to offer maximum penetration and spread of the spray solution. The combination of solvents and emulsifiers used in the formulation shall not contain more than 0.1 mg. of organic chlorine per gram when analyzed according to 4.4.2. The product shall

remain free of solid material when held at a temperature of 25° F. for a period of 5 days.

3.2.2 *Class 2, the low volatile esters.*—These include the glycol, polyglycol and their ether ester derivatives of 2,4,5-T as well as other heavy molecular weight esters of 2,4,5-T that are known to be low volatile. The low volatile esters of 2,4,5-T shall contain a minimum of four pounds of 2,4,5-T acid per gallon of formulation at 68° F., as determined in 4.4.2. This class shall not include esters of the lower alkyl group such as methyl, ethyl, propyl, isopropyl, butyl, amyl, and pentyl, or mixtures of these alkyl esters. The formulation shall be readily miscible with oil and emulsifiable with water. The product shall be a clear solution, nonfoaming and shall include the necessary solvents, and emulsifying agents, such that the emulsion formed with water requires a minimum of agitation to maintain intimate mixture with the diluent during the mixing and application period. The oil carrier for the formulation shall be of such gravity and viscosity, not detracting from the killing power of the active ingredients, to offer maximum penetration and spread of the spray solution. When tested for volatility as described in 4.4.3 the product shall have an average response of less than 4.0. The combination of solvents and emulsifiers used in the formulation shall not contain more than 0.1 mg. of organic chlorine per gram when analyzed according to 4.4.2. The product shall remain free of solid material when held at a temperature of 25° F. for a period of 5 days.

3.4 **Workmanship.**—The finished products shall be clean and uniform, and free from any defects which might impair their utility.

4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Sampling for lot acceptance.

4.1.1 *Inspection lot.*—For purposes of sampling, a lot shall consist of all material offered for inspection at one time. In case material is produced by a continuous-run process the lot shall contain material from only one continuous run. Material in the inspection lot shall be identified by order of production (in case of a continuous-run process) or by batch number (in case of batch process) until ultimate action is taken by the Government inspector as to the acceptance or rejection of the lot.

4.1.2 *Sampling for inspection of filled containers.*—A random sample of filled containers shall be taken from each lot by the inspector in accordance with MIL–STD–105 at inspection level I, and acceptable quality level (A.Q.L.) = 2.5 percent defective to verify compliance with all stipulations of this specification regarding fill, closure, marking, and other requirements not involving tests.

4.1.3 *Sampling for tests.*—From each inspection lot the inspector shall take three separate 1-pound acid equivalent or 1-pint samples. In case the material is produced by a batch process, and the inspection lot contains more than 2 batches, the three samples shall normally be taken from different batches, from time to time; however, at the discretion of the inspector, two or three of the samples shall be taken from the same batch, in which case the samples shall be obtained in a manner calculated to disclose any nonuniformity of the material within the batch. Where material is produced by a continuous-run process the three samples shall be taken so as to represent respectively, the first part, the middle part, and the last part of the run which produced the inspection lot. Each sample shall be thoroughly mixed and divided into three equal portions. The portions shall be placed in separate, clean, dry, metal or glass containers, which shall be sealed and carefully marked. One of the portions of each sample shall be forwarded to a Government Laboratory designated by the bureau or agency concerned, one shall be delivered to the contractor, and one shall be held by the Government Inspector to be used for retests in case of dispute.

4.2 Inspection.

4.2.1 *Inspection of filled containers.*—Each sample filled container selected in accordance with 4.1.2 shall be examined by the inspector for defects of the container and the closure, for evidence of leakage, and for unsatisfactory markings. Each sample filled container shall also be weighed to determine the amount of the contents. Any container in the sample having one or more defects, or under required fill, shall be rejected, and if the number of defective containers in any sample exceeds the acceptance number for the appropriate sampling plan of MIL–STD–105 the lot represented by the sample shall be rejected. Rejected lots may be resubmitted for acceptance tests provided that the contractor has removed or repaired all nonconforming containers.

4.3 Lot acceptance tests. — The sample specimens selected in accordance with 4.1.3 shall be subjected separately to the tests specified in 4.4. If either specimen fails in one or more of the tests the lot shall be rejected. Rejected lots may be resubmitted for acceptance tests provided the contractor has removed or repaired all nonconforming products.

4.4 Test procedures.

4.4.1 *2,4,5-Trichlorophenoxyacetic acid content in amine salts of 2,4,5-trichlorophenoxyacetic acid.* — Transfer a sample equivalent (or a suitable aliquot of a sample diluted with water) to about 1 g. of 2,4,5-T acid to a 250-ml. separatory funnel. Neutralize if necessary with 10 percent H_2SO_4, and add 10 ml. in excess. Extract the aqueous phase twice with 75-ml. portions of ether. Wash the combined ether extracts free from mineral acid with 3 portions of water exactly 10 ml. each. Avoid slight emulsification by excessive shaking. Filter the ether solution through a funnel containing a small piece of cotton previously saturated with ether into a 400-ml. beaker, rinsing the separatory funnel with ether. Add 25 ml. of water, a few boiling chips, and evaporate off the ether layer on a steam bath until approximately 25 ml. of ether remains. Remove the beaker from the steam bath and evaporate off the remaining portion of ether at room temperature by means of a current of air. Dissolve the aqueous mixture in 100 ml. of neutral ethyl alcohol and titrate with 0.1 *N* NaOH using 1 ml. of indicators* (1 g. in 100 ml. of alcohol).

*Either phenolphthalein or thymolphthalein may be used in the titration provided the one selected is used in the standardization of the sodium hydroxide.

Each ml. of 0.1 *N* NaOH is equivalent to *0.02555* g. of 2,4,5-trichlorophenoxyacetic acid. Calculate the percent 2,4,5-T acid found to the specific amine present in the sample. Ref: Methods of analysis, A.O.A.C., 8th Ed., par. 5.133(c), page 75.

4.4.2 *Esters of 2,4,5-trichlorophenoxyacetic acid by determination of total chlorine.* — Weigh and mix 1.5 g. of boric anhydride (Eastman Kodak Co., Cat. #2685 or equivalent), 1.0 g. finely powdered potassium nitrate, and 0.4 g. finely powdered sucrose. Transfer approximately one-fourth of this mixture to a 42-ml. Parr bomb, electric ignition type, and add from a small weighing buret about 0.25–0.30 g. of sample containing from 0.080–0.035 g. chlorine. (When a sample larger than 0.30 g. is required, 2.5 g. of boric anhydride should be used. In no cases should a sample larger than 0.6 g. be taken.) Mix well with a thin stirring rod. Add the remainder of the boric anhydride, potassium nitrate and sucrose mixture in small portions and thoroughly mix after each addition. Measure 15 g. of calorimetric grade sodium peroxide in a standard measuring dipper, add a small portion to the contents of the bomb, and stir. Add the balance of sodium peroxide and thoroughly mix by stirring with the rod. Withdraw the rod and brush free of adhering particles. Quickly cut or break off the lower 1½ inches of the stirring rod and imbed it in the fusion mixture. Sprinkle on the top of the fusion mixture a small quantity of finely ground sucrose. Prepare the head by heating

the fuse wire momentarily in a flame and immersing it into a small quantity of sucrose. One milligram of the substance is sufficient to start the combustion. Assemble the bomb and ignite in the usual manner with a satisfactory shield between the operator and apparatus.

Place about 100 ml. of distilled water in a 600-ml. beaker and heat nearly to boiling. After cooling of the bomb, dismantle it and dip the cover in the hot water to dissolve any of the fusion which may be adhering to its under side. Wash cover with a fine jet of distilled water catching the washings in the beaker. With a pair of tongs lay the fusion cup on its side in the same beaker of hot water, covering it immediately with a watch glass. After the fused material has been dissolved, remove the cup and rinse with hot water, cool the solution, add several drops of phenolphthalein indicator, neutralize with concentrated nitric acid and add 5 ml. in excess. From this point, the chlorine may be determined by electrometric titration or by the Volhard procedure as directed in the Methods Of Analysis A.O.A.C., 8th. Ed., page 80, par. 5.153 (a) (c).

Note 1.—The combination of materials used in a sodium peroxide bomb has explosive properties if wrongly handled, and the operator should remain fully aware at all times of the precautions that must be observed and the steps which must be taken to avoid damage to the apparatus and possibly personal injury. It is suggested that the instructions and precautions given in the "Parr Manual Number 121—Peroxide Bomb Apparatus and Methods," Parr Instrument Company, Moline, Illinois, be observed.

Note 2.—A flame fired bomb may be used in place of the electric ignition type, but in case of dispute the electric ignition type will govern.

4.4.3 *Volatility test (Relative Vapor Activity).*—The vapor activity test is conducted with gastight polyethylene cases approximately 4 x 4 x 18 inches in size. Young rapidly growing Pinto bean plants about 4 inches in height are used as test plants. A single bean plant growing in a 3-inch pot is placed in each polyethylene case just prior to testing the ester.

4.4.3.1 Two milligrams of acid equivalent as the ester is dissolved in 10 milliliters of 95 percent ethyl alcohol and a Whatman No. 1 filter paper (9 cm. diameter) is thoroughly moistened by dipping in the solution. (Do not reuse the container used in this impregnation.) The alcohol is then allowed to evaporate and the filter paper impregnated with the ester is inserted into the polyethylene case containing the bean and fastened to the inside of the case 6 inches above the leaves of the test plant. The open end of the polyethylene case is then sealed.

4.4.3.2 The case containing the test plant and treated filter paper is then placed in a dark room for a period of 24 hours. The temperature range of the room should be 80° F. Control plants are also sealed in separate cases. The experimental design is a randomized block with three replications and each test is repeated three times. The evaluation shall be made following an exposure period of 24 hours.

4.4.3.3 Observation of the effect of the vapors on test plants should take into consideration whether or not the plant is slightly, moderately or severely injured, including such symptoms as degree of stem curvature, terminal bud inhibition and degree of leaf curl. The relative vapor activity of an ester can be numerically designated as follows: 0 — no visible effects; 1,2,3—slight injury—plants usually recovered with little or no reduction in growth, slight epinasty present, stem curvature slight; 4, 5, 6 — moderate injury — plant usually recovered, moderate epinasty, moderate terminal bud inhibition and moderate stem curvature present; 7,8,9—severe injury—plant usually does not recover, pronounced epinasty, together with pronounced stem curvature; 10—plant killed.

4.4.3.4 Chemically pure 2,4,5-T acid and the butyl ester of 2,4,5-T are used as standards. The 2,4,5-T acid under most conditions is rated 0 while the butyl ester has a high vapor

activity with a rating of 9.0. Esters receiving the following ratings would be classed as follows:

0 no vapor activity
1,2,3 very low vapor activity
4,5,6 low to moderate vapor activity
7,8,9 high vapor activity
10 very high vapor activity

Esters must receive a vapor activity rating of less than 4 to be designated low volatile.

5. PREPARATION FOR DELIVERY

For civil agencies, the definitions and applications of the levels of packaging and packing shall be in accordance with Federal Standard No. 102.

5.1 Packaging.

5.1.1 *Level A.*—When specified in the contract or order to be packaged in cans, the material shall be packaged in 1-gallon containers conforming to type V, class 4, oblong, of Federal Specification PPP–C–96. Containers shall not affect or be affected by the material contained.

5.1.2 *Level B.*—When specified in the contract or order to be packaged in cans, the material shall be packaged as specified in 5.1.1.

5.2 Packing.

5.2.1 *Level A.*

5.2.1.1 *Packaged material.*—When the material is required to be packaged in cans, six cans of material shall be packed in a snug-fitting container conforming to Federal Specification PPP–B–636.

5.2.1.2 *Bulk material.*—When specified in the contract or order to be packed in drums, the material shall be packed in 5-gallon or 55-gallon drums, as specified. Five-gallon drums shall conform to type I, class 1 of Federal Specification PPP–D–760, fifty-five-gallon drums shall conform to type II of Federal Specification PPP–D–729. Containers shall not affect nor be affected by the material contained.

5.2.2 *Level B.*—Material shall be packed as specified in 5.2.1.

5.2.3 *Level C.*—The product shall be packed in containers which are acceptable by common or other carriers for safe transportation to point of destination specified in shipping instructions at the lowest transportation rate for such supplies.

5.3 Marking.

5.3.1 *Civil agencies.*—In addition to any special marking required by the contract or order, marking for shipment shall be in accordance with Federal Standard No. 123.

5.3.1.1 *Labeling.*—Unless otherwise specified, each container of 2,4,5-T formulation shall be labeled with instructions for use and marked in compliance with The Federal Insecticide, Fungicide, and Rodenticide Act and other applicable existing Federal laws. Date of pack and lot number shall appear on the label. In addition, the cover shall have the stock number and item nomenclature shall be embossed on a metal plate and wired securely to the individual container.

5.3.2 *Military.*—In addition to the marking specified in 5.3.1.1, and any special marking required in the contract or order, all containers shall be marked in accordance with Military Standard MIL–STD–129.

6. NOTES

6.1 **Net content.** — Statements of liquid measure shall be in terms of the United States gallon at 68° F.

6.2 Intended use.

6.2.1 *Type I.*—The liquid amine forms of 2,4,5-T are highly soluble in water, making a

relatively clear solution. They are quite stable and are effective for easy-to-kill or moderately easy-to-kill weeds and woody plants. The amine salts of 2,4,5-T are much less volatile than the ester forms of 2,4,5-T and are somewhat better adapted for spraying for weed control near plants sensitive to 2,4,5-T. However, the amine salts of 2,4,5-T are usually less effective on old, semiresistant weeds and woody species than the esters of 2,4,5-T per pound of acid equivalent.

6.2.2 *Type II.*—The liquid ester forms of 2,4,5-trichlorophenoxyacetic acid.

6.2.3 *Class 1.*—Not authorized for Air Force use. The lower alkyl esters of 2,4,5-trichlorophenoxyacetic acid are comparatively volatile. When the lower alkyl esters of 2,4,5-T are used for weed and woody plant control they may be used at lower acid equivalent rates than the amine salts of 2,4,5-T. The lower alkyl esters of 2,4,5-T are better adapted for the control of harder-to-kill weeds and older semiresistant weed and woody species than the amine salts of 2,4,5-T. The lower alkyl esters of 2,4,5-T should not be used in areas near sensitive crops such as cotton, grapes, tomatoes, tobacco, and other sensitive crops.

6.2.4 *Class 2.*—The low volatile esters of 2,4,5-T have the same intended use as the ester forms specified in class 1. However, in areas where sensitive crops are grown such as cotton, etc., if an ester form of 2,4,5-T is necessary, the esters specified in class 2 should be used to reduce the hazard of volatility.

6.3 **Ordering data.**—Purchasers should exercise any desired options offered herein (see 1.2, 5.1, 5.2, 5.3) (also see 6.4 for basis of award).

6.4 **Basis of award.**

6.4.1 *Type I and type II (classes 1 and 2).*—Bids should be evaluated and the award made primarily on the basis of computing the price per pound of 2,4,5-T acid equivalent contained in each gallon of preparation or concentrate (supplier should be requested to furnish 2,4,5-T acid equivalent data).

MILITARY INTERESTS:
Army—Q C M E
Navy—Y
Air Force.

★ U. S. GOVERNMENT PRINTING OFFICE: 1966

Item ID Number	00249
Author	
Corporate Author	Federal Supply Service, General Services Administratio
Report/Article Title	Federal Specification: Herbicide, 2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T) (Salts and Esters), O-H-210a, Amendment--2
Journal/Book Title	
Year	1961
Month/Day	August 8
Color	☐
Number of Images	1
Description Notes	Found in a file labeled: "Correspondence Concerning the Use of Defoliants in SEA and the Role of Air Force Personnel, Nov 1962 - Oct 1967"; supersedes Interim Amendment--1

O–H–210a
AMENDMENT—2
August 8, 1961

SUPERSEDING
Interim Amendment—1
September 16, 1960

FEDERAL SPECIFICATION

HERBICIDE, 2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T) (SALTS AND ESTERS)

This amendment, which forms a part of Federal Specification O–H–210a, dated September 5, 1958, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

Page 1, paragraph 2.1: Add the following at the end of the paragraph: "to the extent specified herein".

Page 1, paragraph 2.1: Delete "PPP–D–760—Drums and Pails, Metal (5 and 16.64 Gallon)" and substitute "PPP–P–704—Pails: Shipping, Steel (1 Through 12 Gallon)".

Page 2, paragraph 2.2: Add the following at the end of the first sentence: "to the extent specified herein".

Page 3, section 4: Add the following paragraph:

4.1 The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examinations and tests shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

Page 3, paragraph 4.1 and succeeding paragraphs: Renumber.

Page 6, paragraph 5.2.2: Delete the second sentence and substitute: "Five-gallon drums shall conform to type I, class 3 of Federal Specification PPP–P–704; fifty-five gallon drums shall conform to type II of Federal Specification PPP–D–729".

Page 6, paragraph 5.3.1.1: Delete and substitute:

5.3.1.1 *Labeling.*—Unless otherwise specified, each container of 2,4,5–T formulation shall be labeled with instructions for use and marked in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act and other applicable existing Federal laws. Date of pack and lot number shall appear on the label.

MILITARY INTERESTS:
Army—Q C M E
Navy—Y MC
Air Force.

6840-582-5440
5779-4201

O-H-210C
September 26, 1969
SUPERSEDING
Int. Fed. Spec. O-H-00210B (GSA-FSS)
June 11, 1968 and
Fed. Spec. O-H-210A
September 5, 1958

FEDERAL SPECIFICATION

HERBICIDE, 2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T) (SALTS AND ESTERS)

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. 2,4,5-Trichlorophenoxyacetic acid (2, 4, 5-T) is an organic acid relatively insoluble in water or oil. It is normally compounded before use as a herbicide. 2,4,5-T is a selective herbicide. When applied in the same manner as 2,4-dichlorophenoxyacetic acid (2,4-D) it has similar effects on most plants. As a postemergence spray it will kill many broad-leaved weeds and woody plants, with little or no injury to many grasses and sedges. As a preemergence spray or as a foliage spray on seedlings, 2,4,5-T can also be used to control many annual grasses. However, 2,4,5-T is more effective on many woody plants and will control certain species not effectively controlled by 2,4-D. This specification covers two general types of 2,4,5-T.

1.2 Classification.

1.2.1 Forms. Formulations of 2,4,5-T covered by this specification shall be two general types as specified:

Type I - Liquid, amine salt forms which are usually less effective on plants per pound of 2,4,5-T acid equivalent than the ester forms.
Type II - Liquid, ester forms which are the most toxic forms of 2,4,5-T to plants per pound of 2,4,5-T acid equivalent.

Class 1 - Volatile alkyl esters of 2,4,5-T (see 6.2.3).
Class 2 - Low volatile esters of 2,4,5-T (see 6.2.4).

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications:

PPP-C-96 - Cans, Metal 28 Gage and Lighter.
PPP-D-729 - Drums: Metal 55-Gallon (For Shipment of Nonconcentrate Materials).
PPP-P-704 - Pails, Metal: (Shipping, Steel, 1 Through 12 Gallon).

Federal Standard:

Fed. Std. No. 123 - Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

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(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, Washington.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

Laws and Regulations

Federal Insecticide, Fungicide, and Rodenticide Act.

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

Nongovernmental:

Association of Official Analytical Chemists:

Official Methods of Analysis. Tenth Edition, 1965.

(Application for copies should be addressed to the Association of Official Analytical Chemists, P. O. Box 540, Benjamin Franklin Station, Washington, D.C. 20044.)

Uniform Freight Classification Rules.

(Application for copies should be addressed to the Uniform Classification Committee. 202 Union Station, Chicago, Illinois 60606.)

National Motor Freight Classification Rules.

(Application for copies should be addressed to the National Classification Board, 1616 P Street, N. W., Washington, D.C. 20036.)

3. REQUIREMENTS

3.1 Type I. The liquid, amine salt forms of 2,4,5-Trichlorophenoxyacetic acid shall contain a minimum of four pounds of 2,4,5-T acid equivalent per gallon of formulation at 68° F., as determined in 4.5.1. The amine in this formulation shall be either an alkyl or alkanolamine or mixtures of these types. The product shall be soluble in hard or soft water at the concentrations specified in the directions for use, mixing, disperse easily, making a solution that contains no ingredients which will inhibit the application of the material at the concentrations normally used for weed and woody plant control. The product shall contain no ingredients which will coagulate with water. The material shall contain sequestering agents which will [illegible] its application in hard or soft water.

NOTE: Water containing up to about 5 grains [illegible] hardness is considered soft, over 30 grains (513 p.p.m.) is very hard. Degree of [illegible] expressed in terms of grains per gallon of calcium carbonate (1 grain per gallon [illegible] equivalent to 17.1 parts per million $CaCO_3$.).

3.2 Type II. The liquid ester forms of 2,4,5-Trichlorophenoxyacetic acid.

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, Washington.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

Laws and Regulations

Federal Insecticide, Fungicide, and Rodenticide Act.

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. [illegible] specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

[illegible]:

[illegible] Official Analytical Chemists:

Official Methods of Analysis. Tenth Edition, 1965.

(Application for copies should be addressed to the Association of Official Analytical Chemists, P. O. Box 540, Benjamin Franklin Station, Washington, D.C. 20044.)

Uniform Freight Classification Rules.

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[illegible] Motor Freight Classification Rules.

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3. REQUIREMENTS

3.1 Type I. The liquid, amine salt forms of 2,4,5-Trichlorophenoxyacetic acid shall contain a minimum of four pounds of 2,4,5-T acid equivalent per gallon of formulation at 68° F., as determined in 4.5.1. The amine in this formulation shall be either an alkyl or alkanolamine or mixtures of these types. The product shall be soluble in hard or soft water at the concentrations specified in the directions for use, nonfoaming, disperse easily, making a solution that contains no ingredients which will inhibit the application of the material at the concentrations normally used for weed and woody plant control. The product shall contain no ingredients which will coagulate with water. The material shall contain sequestering agents which facilitate its application in hard or soft water.

NOTE: Water containing up to [illegible] grains (85.5 p.p.m.) of hardness is considered soft, over 30 grains (513 p.p.m.) is very [illegible] of hardness is often expressed in terms of grains per gallon of calcium carbonate (1 grain per gallon $CaCO_3$ is equivalent to 17.1 parts per million $CaCO_3$.).

3.2 Type II. The liquid ester forms of 2,4,5-Trichlorophenoxyacetic acid.

3.2.1 Class 1, the volatile esters formulations of 2,4,5-Trichlorophenoxyacetic acid. Formulations of the alkyl liquid esters of 2,4,5-T shall contain a minimum of four pounds of 2,4,5-T acid equivalent per gallon of formulation at 68°F. as determined in 4.5.2. The esters in this class shall belong to the alkyl group such as methyl, ethyl, propyl, isopropyl, butyl, amyl, and pentyl, or mixtures of these alkyl esters. The formulation shall be a clear solution readily miscible with oil and emulsifiable when mixed with water. It shall contain the necessary solvents and emulsifying agents, such that the emulsion formed with water required a minimum of agitation to maintain intimate mixture with the diluent during the mixing and application period. The oil carrier for the formulation shall be of such gravity and viscosity, not detracting from the killing power of the active ingredients, to offer maximum penetration and spread of the spray solution. The combination of solvents and emulsifiers used in the formulation shall not contain more than 0.1 mg. of organic chlorine per gram when analyzed according to 4.5.2. The product shall remain free of solid material when held at a temperature of 25°F. for a period of 5 days.

3.2.2 Class 2, the low volatile esters. These include the glycol, polyglycol and their ether ester derivatives of 2,4,5-T as well as other heavy molecular weight esters of 2,4,5-T that are known to be low volatile. The low volatile esters of 2,4,5-T shall contain a minimum of four pounds of 2,4,5-T acid equivalent per gallon of formulation at 68°F., as determined in 4.5.2. This class shall not include esters of the lower alkyl group such as methyl, ethyl, propyl, isopropyl, butyl, amyl, and pentyl, or mixtures of these alkyl esters. The formulation shall be readily miscible with oil and emulsifiable with water. The product shall be a clear solution, nonfoaming and shall include the necessary solvents, and emulsifying agents, such that the emulsion formed with water requires a minimum of agitation to maintain intimate mixture with the diluent during the mixing and application period. The oil carrier for the formulation shall be of such gravity and viscosity, not detracting from the killing power of the active ingredients, to offer maximum penetration and spread of the spray solution. When tested for volatility as described in 4.5.3 the product shall have an average vapor activity rating of less than 4.0. The combination of solvents and emulsifiers used in the formulation shall not contain more than 0.1 mg. of organic chlorine per gram when analyzed according to 4.5.2. The product shall remain free of solid material when held at a temperature of 25° F. for a period of 5 days.

3.4 Workmanship. The finished products shall be clean and uniform, and free from any defects which might impair their utility.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling for lot acceptance.

4.2.1 Inspection lot. A lot shall consist of one batch of material produced by one manufacturer from the same materials and under essentially the same manufacturing conditions. (A batch is defined as that quality of material which has been manufactured by source unit chemical process and subjected to some physical mixing process intended to make the final product substantially uniform). In the event of the operation is a continuous operation, that material produced in one 24 hour period shall constitute a lot.

4.2.2 Sampling for inspection of filled containers. A random sample of filled containers shall be taken from each lot by the inspector in accordance with MIL-STD-105 at inspection level I, and acceptable quality level (AQL) = 2.5 percent defective to verify compliance with all stipulations of this specification regarding fill, closure, marking, and other requirements not involving tests.

4.2.3 Sampling for tests. From each inspection lot the inspector shall take three separate 1-pint samples. In case the material is produced by a batch process, and the inspection lot contains more than 2 batches, the three samples shall normally be obtained from different batches, from time to time; however, at the discretion of the inspector, two or three of the samples shall be taken from the same batch, in which case the samples shall be obtained in a manner calculated to disclose any nonuniformity of the material within the batch. Where material is produced by a continuous-run process the three samples shall be taken so as to represent respectively, the first part, the middle part, and the last part of the run which produced the inspection lot. Each sample shall be thoroughly mixed and divided into three equal portions. The portions shall be placed in separate,

clean, dry, metal or glass containers, which shall be sealed and carefully marked. One of the portions of each sample shall be forwarded to a Government Laboratory designated by the bureau or agency concerned, one shall be delivered to the contractor, and one shall be held by the Government inspector to be used for retests in case of dispute.

4.3 Inspection.

4.3.1 Inspection of filled containers. Each sample filled container selected in accordance with 4.2.4 shall be examined by the inspector for defects of the container and the closure, for evidence of leakage, and for unsatisfactory markings. Each sample filled container shall also be weighed to determine the amount of the contents. Any container in the sample having one or more defects, or under required fill, shall be rejected, and if the number of defective containers in any sample exceeds the acceptance number for the appropriate sampling plan of MIL-STD-105 the lot represented by the sample shall be rejected. Rejected lots may be resubmitted for acceptance tests provided that the contractor has removed or repaired all nonconforming containers.

4.4 Lot acceptance tests. The sample specimens selected in accordance with 4.2.3 shall be subjected separately to the tests specified in 4.5. If either specimen fails in one or more of the tests the lot shall be rejected. Rejected lots may be resubmitted for acceptance tests provided the contractor has removed or repaired all nonconforming products.

4.5 Test methods.

4.5.1 2,4,5-Trichlorophenoxyacetic acid content in amine salts of 2,4,5-Trichlorophenoxyacetic acid. Transfer a sample equivalent (or a suitable aliquot of a sample diluted with water) to about 1 g. of 2,4,5-T acid to a 250-ml. separatory funnel. Neutralize if necessary with 10 percent H_2SO_4, and add 10 ml. in excess. Extract the aqueous phase twice with 75-ml. portions of ether. Wash the combined ether extracts free from mineral acid with 3 portions of water exactly 10 ml. each. Avoid slight emulsification by excessive shaking. Filter the ether solution through a funnel containing a small piece of cotton previously saturated with ether into a 400-ml. beaker, rinsing the separatory funnel with ether. Add 25 ml. of water, a few boiling chips, and evaporate off the ether layer on a steam bath until approximately 25 ml. of ether remains. Remove the beaker from the steam bath and evaporate off the remaining portion of ether at room temperature by means of a current of air. Dissolve the aqueous mixture in 100 ml. of neutral ethyl alcohol and titrate with 0.1 N NaOH using 1 ml. of indicator* (1 g. in 100 ml. of alcohol).

Each ml. of 0.1 N NaOH is equivalent to 0.02555 g. of 2,4,5-trichlorophenoxyacetic acid. Calculate the percent 2,4,5-T acid found to the specific amine present in the sample. Ref: Methods of analysis, A.O.A.C., Tenth Edition, par. 4.138 (c), page 55.

4.5.2 Esters of 2,4,5-trichlorophenoxyacetic acid by determination of total chlorine. Weigh and mix 1.5 g. of boric anhydride (Eastman Kodak Co., Cat. #2605 or equivalent), 1.0 g. finely powdered potassium nitrate, and 0.4 g. finely powdered sucrose. Transfer approximately one-fourth of this mixture to a 42-ml. Parr bomb, electric ignition type, and add from a small weighing buret about 0.25 to 0.30 g. of sample containing from 0.030 to 0.035 g. chlorine. (When a sample larger than 0.30 g. is required, 2.5 g. of boric anhydride should be used. In no cases should a sample larger than 0.6 g. be taken.) Mix well with a thin stirring rod. Add the remainder of the boric anhydride, potassium nitrate and sucrose mixture in small portions and thoroughly mix after each addition. Measure 15 g. of calorimetric grade sodium peroxide in a standard measuring dipper, add a small portion to the contents of the bomb, and stir. Add the balance of sodium peroxide and thoroughly mix by stirring with the rod. Withdraw the rod and brush free of adhering particles. Quickly cut or break off the lower 1-1/2 inches of the stirring rod and imbed it in the fusion mixture. Sprinkle on the top of the fusion mixture a small quantity of finely ground sucrose. Prepare the head by heating the fuse wire momentarily in a flame and immersing it into a small quantity of sucrose. One milligram of the substance is sufficient to start the combustion. Assemble the bomb and ignite in the usual manner with a satisfactory shield between the operator and apparatus.

Place about 100 ml. of distilled water in a 600-ml. beaker and heat nearly to boiling. After cooling of the bomb, dismantle it and dip the cover in the hot water to dissolve any of the fusion which may be adhering to its under side. Wash cover with a fine jet of distilled water catching the washings in the beaker. With a pair of tongs lay the fusion cup on its side in the same beaker of hot water, covering it immediately with a watch glass. After the fused material has been dissolved, remove the cup and rinse with hot water, cool the solution, add several drops of phenolphthalein indicator, neutralize with concentrated nitric acid and add 5 ml. in excess. From this point, the chlorine may be determined by electrometric titration or by the Volhard procedure as directed in the Methods of Analysis A.O.A.C., Tenth Edition, page 64, par. 4.189 (a) (c).

*Either brom thymol blue or phenolphtalein may be used in the titration provided the one selected is used in the standardization of the sodium hydroxide.

NOTE 1. The combination of materials used in a sodium peroxide bomb has explosive properties if wrongly handled, and the operator should remain fully aware at all times of the precautions that must be observed and the steps which must be taken to avoid damage to the apparatus and possibly personal injury. It is suggested that the instructions and precautions given in the "Parr Manual Number 121 - Peroxide Bomb Apparatus and Methods," Parr Instrument Company, Moline, Illinois, be observed.

NOTE 2. A flame fired bomb may be used in place of the electric ignition type, but in case of dispute the electric ignition type will govern.

4.5.3 Volatility test (Relative Vapor Activity). The vapor activity test is conducted with gas-tight polyethylene cases approximately 4 x 4 x 18 inches in size. Young rapidly growing red Kidney bean plants about 4 inches in height are used as test plants. A single bean plant growing in a 3-inch pot is placed in each polyethylene case just prior to testing the ester.

4.5.3.1 Two milligrams of acid equivalent as the ester is dissolved in 10 milliliters of 95 percent ethyl alcohol and a Whatman No. 1 filter paper (9 cm. diameter) is thoroughly moistened by dipping in the solution. (Do not reuse the container used in this impregnation.) The alcohol is then allowed to evaporate and the filter paper impregnated with the ester is inserted into the polyethylene case containing the bean and fastened to the inside of the case 6 inches above the leaves of the test plant. The open end of the polyethylene case is then sealed.

4.5.3.2 The case containing the test plant and treated filter paper is then placed in a dark room for a period of 24 hours. The temperature range of the room should be 80° F. Control plants are also sealed in separate cases. The experimental design is a randomized block with three replications and each test is repeated three times. The evaluation shall be made following an exposure period of 24 hours.

4.5.3.3 Observation of the effect of the vapors on test plants should take into consideration whether or not the plant is slightly, moderately or severely injured, including such symptoms as degree of stem curvature, terminal bud inhibition and degree of leaf curl. The relative vapor activity of an ester can be numerically designated as follows: 0 - no visible effect; 1,2,3 - slight injury - plants usually recovered with little or no reduction in growth, slight epinasty present, stem curvature slight; 4,5,6 - moderate injury - plant usually recovered, moderate epinasty, moderate terminal bud inhibition and moderate stem curvature present; 7,8,9 - severe injury - plant usually does not recover, pronounced epinasty, together with pronounced stem curvature; 10 - plant killed.

4.5.3.4 Chemically pure 2,4,5-T acid and the butyl ester of 2,4,5-T are used as standards. The 2,4,5-T acid under most conditions is rated 0 while the butyl ester has a high vapor activity with a rating of 9.0. Esters receiving the following ratings would be classed as follows:

0 - no vapor activity.
1,2,3 - low vapor activity.
4,5,6 - moderate vapor activity.
7 and above - high vapor activity.

Esters must receive a vapor activity rating of less than 4 to be designated low volatile.

4.6 Inspection of preparation for delivery. The packaging, packing and marking of the herbicide shall be inspected to determine conformance to the requirements of Section 5 of this specification.

5. PREPARATION FOR DELIVERY

5.1 Packaging. [illegible] shall be level A, B, or C, as specified (see 6.3).

5.1.1 Level A. [illegible] shall be packaged in a 1-gallon [illegible] can conforming to PPP-C-96, type V, class [illegible] coating. Five-gallon or 55-gallon quantities shall be packed directly into [illegible] specified in 5.2.1.2 or 5.2.2.2.

5.1.2 Level B. The [illegible] shall be packaged as specified for level A except that for cans, the exterior coating shall [illegible].

5.1.3 Level C. The herbicide shall be packaged in accordance with the supplier's standard practice. The size of containers shall be as specified (see 6.3).

5.2 Packing. Packing shall be level A, B, or C, as specified (see 6.3).

5.2.1 Level A.

5.2.1.1 One-gallon cans. The herbicide packaged as specified in 5.1.1 shall be packed in accordance with the level A requirements of the appendix of PPP-C-96.

5.2.1.2 Five-gallon pails or 55-gallon drums. The herbicide shall be packed in a five-gallon pail conforming to PPP-P-704, type I, class 3, or in a 55-gallon drum conforming to PPP-D-729, type II, as specified (see 6.3).

5.2.2 Level B.

5.2.2.1 One-gallon cans. The herbicide, packaged as specified in 5.1.2 shall be packed in accordance with the level B requirements of the appendix to PPP-C-96.

5.2.2.2 Five-gallon pails or 55-gallon drums. The herbicide shall be packed in a five-gallon pail conforming to PPP-P-704, type I, class 3, except that commercial colors shall be acceptable, or in a 55-gallon drum conforming to PPP-D-729, type II, except that commercial coatings are acceptable as specified (see 6.3).

5.2.3. Level C. The herbicide shall be packed in containers which are acceptable by carriers for safe transportation to point of destination specified in the procurement document at the lowest rate for such supplies. Containers and packing shall conform to the requirements of the Uniform Freight Classification Rules, or National Motor Freight Classification Rules.

5.3 Marking.

5.3.1 Civil agencies. In addition to any special marking required by the contract or order, marking for shipment shall be in accordance with Fed. Std. No. 123.

5.3.1.1 Labeling. Unless otherwise specified, each container of 2,4,5-T formulation shall be labeled with directions for use [illegible] in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act and other applicable existing Federal laws. Date of pack and lot number shall appear on the label.

5.3.2 Military agencies. In addition to the marking specified in 5.3.1.1, and any special marking required by the contract or order, all containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Unit content. The units of liquid measure shall be in terms of the United States gallon at 68° F.

6.2 Intended use.

6.2.1 Type I. The liquid amine forms of 2,4,5-T are highly soluble in water, making a relatively clear solution. They are quite stable and are effective for easy-to-kill or moderately easy-to-kill weeds and woody plants. The amine salts of 2,4,5-T are much less volatile than the ester forms of 2,4,5-T and are somewhat better adapted for spraying for weed control near plants sensitive to 2,4,5-T. However, the amine salts of 2,4,5-T are usually less effective on old, semiresistant weeds and woody species than the esters of 2,4,5-T per pound of acid equivalent.

6.2.2 Type II. The liquid ester forms of 2,4,5-trichlorophenoxyacetic acid.

6.2.3 Type II. Not authorized for military use. The lower alkyl esters of 2,4,5-trichlorophenoxyacetic acid are comparatively volatile. When the lower alkyl esters of 2,4,5-T are used for weed and woody plant control they may be used at lower acid equivalent rates than the amine salts of 2,4,5-T. The lower alkyl esters of 2,4,5-T are better adapted for the control of harder-to-kill weeds and older semiresistant weed and woody species than the amine salts of 2,4,5-T. The lower alkyl esters of 2,4,5-T should not be used in areas near sensitive crops such as cotton, grapes, tomatoes, and tobacco.

6.2.4 Class 2. The low volatile esters of 2,4,5-T have the same intended use as the ester forms specified in class 1. However, in areas where sensitive crops are grown such as cotton, etc., if an ester form of 2,4,5-T is necessary, the esters specified in class 2 should be used to reduce the hazard of volatility.

6.3 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

(a) Title, number, and date of this specification.
(b) Level of packaging and packing (see 5.1 and 5.2).
(c) Quantity to shipping container (see 5.1.1 and 5.1.3).
(d) Special markings required (see 5.3.1 and 5.3.2).

6.4 Basis of award.

6.4.1 Type I [illegible] Type II (classes 1 and 2). Bids should be evaluated and the award made primarily on the basis of computing the price per pound of 2,4,5-T acid equivalent contained in each gallon of preparation of concentrate (supplier should be requested to furnish 2,4,5-T acid equivalent data).

Custodians:

Army - MU
Air Force - 79

User activity:

Marine Corps - MC

PREPARING COORDINATING ACTIVITY:

Navy - YD

Reviewing activity:

GSA-FSS

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Copies of this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 10 cents each.

DEFENSE FUEL SUPPLY CENTER
Washington D. C., 20305

Date: 14 August 1964

Symbol: DFSC-OPC/IFB DSA-6-65-

Drafter: Mrs. Laurel L. Troup

Tel. No.: OXford 6-6468

DISTRIBUTION:
Ext: **Int:**

Monsanto Company
Agr. Division
800 N. Lindbergh Blvd.
St. Louis, Missouri 63166

Your wire or letter bid under this Invitation for Bids IFB DSA-6-65-70 to be publicly opened at 11:00 A. M. EDST 25 August 1964 is requested on the following:

SECTION I

Item No.	Supplies and Destination	Quantity	Unit	Unit Price
	HERBICIDE, 2,4,5-Trichlorophenoxyacetic Acid, Type II, Class 2, FED SPEC O-H-210a, 5 Sep 58 & Am. 2, 8 Aug 61, in 5 gallon steel pail FSN 6840-582-5440			
1.0563	DD Tracy	400	Gal	$ 8.97
1.1118	Atlanta Army Depot	140	Gal	$ 8.97
1.3928	DD Mechanicsburg	3,415	Gal	$ 8.86
1.4316	DD Memphis	795	Gal	$ 8.97

Please indicate the pounds of 2,4,5-T Acid equivalent per gallon 6 lbs A.E.

DISCOUNT: -0- percent; Net 30 calendar days.

Delivered as specified.

010833

EXHIBIT
14

DFSC 4330/42 (4-64)

04997

CONTINUATION SHEET

Except as herein modified, all Terms and Conditions of IFB DSA-6-64-337.apply.

SECTION III

(a) 4 days.

(b) 1 day.

(c) Delivery Date: 24 September 1964.

SECTION IX

Item No.

1 Packaging - Paragraph 5.2.1.2 of product specification.

SECTION X

Item No.

1 Paragraphs 5.3.1.1 and 5.3.2 of product specification and shall include Federal Stock Number, Specification Number, Contract Number, Lot or Batch Number and date of manufacture.

SECTION XI

(a) Manufacturing Point:

Company Name Monsanto Company

Address 800 N. Lindbergh Blvd. St Louis, Missouri 63166

(b) Filling Point:

Company Name Dichem, Inc.

Address 200 S.W. 16th Street Des Moines, Iowa

010834

04998

CONTINUATION SHEET

IDENTIFY REPLY INCLUDING ENVELOPE BY REFERRAL TO IFB DSA-6-65-70 AND MARK -

ATTENTION: CODE OS.

NOTE: Signature of person authorized to sign shall be affixed below, also complete name and address of company shall be shown:

Name of Company: Monsanto Co.

Address: 800 N. Lindbergh Blvd St Louis, Missouri 63166

Authorized Signature: Charles P. Barsch

Charles P. Barsch
Product Supervisor
Agricultural Div

DFSC PR SS-0121-65

DFSC-OPC/IFB DSA-6-65-70

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